

Seventh Annual Lloyd K. Garrison Lecture on Environmental Law

Who Owns the Sky?

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In 1982, Professors Bruce Ackerman and Donald Elliot wrote an op-ed in the *New York Times* comparing the creation of emission reduction credits to the Sooner land rush of 1889.¹ They argued that just as the homesteading represented a federal give away of millions of dollars of a publicly owned resource, the distribution, for free, of emission reduction credits was a similar give away. This time, though, they argued it was even less justified. The public giveaway of emission reduction credits was not done to spread resources more widely, but to achieve pollution reduction at a higher cost to the public than was justified. The cost, according to Professors Ackerman and Elliot was the give away of the public interest in the air resource. As they put it:

[T]he cost savings of a market-based program can be obtained without the give-away contemplated by the Administration. The E.P.A. should, instead, sell polluters the right to dirty the air for a fixed period—just as the Government now auctions off oil and gas leases to the highest bidders. If polluters were forced to pay, they would clean up to avoid the cost - and breathers, not industry, would profit. The public would not stand for a multibillion dollar give-away of public lands or water to industry. Why should the air be different?²

Why, indeed. In much of the discussion surrounding the reform of the command and control systems for reducing conventional air pollutants, as well as the debate culminating in the Kyoto agreement for the reduction of greenhouse gasses, the air resource has been treated as though it were completely within the domain of the government and large corporations to apportion. Yet, as Ackerman and Elliot point out, there is a class of beneficiaries who are central to the debate and to the calculation of cost. These would be the “breathers” identified by Ackerman and Elliot as the real parties in interest. Yet, what is their, or rather our, interest? The answer turns on whether there are constraints on how the government deals with the air resource. Once it is capable of being commodified, are the normal workings of the market,

1. Bruce A. Ackerman & Donald Elliot, *Air Pollution 'Rights,'* N.Y. TIMES, Sept. 11, 1982, at 23.
 2. *Id.*

perhaps modulated by express requirements of fair dealing (if not transparency), the only way to assess plans for the distribution of the resource? What if there are additional sources of public interest that must be accommodated? What if the resource is not the government's to give away? We have all assumed that the air resource, that is its natural quality and its carbon and pollution loading capacity, once the private rights of action had been largely overtaken by an elaborate regulatory regime, is the government's to do with as it sees fit.

What I argue here is that the general assumptions concerning the air resource are largely mistaken. Moreover, I want to suggest a different way of analyzing just what the appropriate characterization of the air resource ought to be. I argue that the public has an ownership interest, or its equivalent, in the air resource. This, of course, assumes that there still exists a class of unassigned natural resources subject to distribution rules that protect the interests of those who might have a claim in the resource. It also assumes that there is a principle of equality that guides the claim to distribution of the resource. Finally, I also suggest that the treatment of the air resource consistent with the insights captured by Ackerman and Elliot will also result in a more equitable and efficient pollution reduction and greenhouse gas reduction regime. Moreover, by increasing the centrality of the public interest in the management of the air resource we make the regulatory regime more democratic. Within the international regime, extension of the interest of the public in the air resource raises the stakes in improving the democratic content of state-to-state negotiations that are at the heart of international environmental regimes.

The central question addressed in this essay is who owns currently unassigned natural resources. Most people believe that the answer to the question of ownership of the natural resources in this country (and in the world, for that matter) has largely been resolved. For the most part, natural resources have both been reduced to private ownership and made subject to the ordinary workings of the market, or they have been reserved for state ownership through either the national or state governments.³ Those options do not exhaust the possible forms of ownership.

3. In fact, the resurrection of the 'equal footing' doctrine has put state ownership of various natural resources into conflict with the claims of Indian tribes and through them the Federal government as trustee for the tribes. The recent case of *Minnesota v. Mille Lacs Band of Chippewa Indians* has raised additional questions about the equal footing doctrine and its relationship to control of natural resources, but it

In fact, there are those resources that are controlled by the state through regulation that ought to be thought of as public property in a different sense. Rather than assuming that public ownership means ownership by the state, ask instead whether it ought to mean ownership by the people in a real sense. Not in the metaphorical sense that government ownership means ownership by the polity (which is the way "the people" is conventionally understood). Real ownership in this sense would mean a form of common ownership. This is not a novel suggestion. The Roman law doctrine of *res communes* recognized that "some forms of property are legally incapable of exclusive ownership. Instead the commonality—the people collectively—owns them. Such ownership differs from state sovereignty and state ownership in fee, although the state often holds the title in trust for the beneficial interests of the people."⁴

In a democratic polity, the reservation of resources for the state (aside from those owned in fee by the government in furtherance of its governmental duties) ought to mean a reservation of the resources on behalf of the people.⁵ For those resources that are subject to common ownership this is doubly true. In both cases, the management of the resources is governed historically by principles of trust law.⁶ The United States, through its various

promises to be source of continuing conflict. See generally 526 U.S. 172 (1999). In many ways, this conflict is a result of the reinvigoration of the federalist claims within our governing structure and first had popular resonance with the so-called 'sagebrush rebellion' in the 1970s. Of course, it is also a variant of the states' rights claims that trace back to the civil war, and most recently, the civil rights movement.

4. Daniel R. Coquillette, *Mosses from an Old Manse: Another Look at Some Historic Property Cases about the Environment*, 64 CORNELL L. REV. 761, 799-801 (1979) (internal footnote omitted). In the omitted footnote Dean Coquillette makes it clear that the commonality or the commune meant "the people of the whole realm" and not the King or the Parliament.

5. As Richard Epstein puts it:

The questions to be asked, therefore are two: What rules will in general promote voluntary transactions? And what methods does the legal system have to "correct" those original allocations that turn out to be arguably wrong? The first of these questions addresses the mix of public and private property. The second addresses the role of the eminent domain principle and its analogue for public property, the public trust doctrine. The eminent domain rules govern the forced conversion of private to public property. Rightly understood, the public trust rules do the reverse, and govern the forced conversion of public to private property.

Richard A. Epstein, *The Public Trust Doctrine*, 7 CATO J. 411, 414 (1987).

6. Even recognizing a trust responsibility on the part of the government does not guarantee that the government will act responsibly. Take, for example, the recent case of *Cobell v. Babbitt*, where the district court held the Secretaries of the Interior and the Treasury, as well as the Assistant Secretary of the Interior, in contempt of

federal departments, manages resources that remain within the public domain for the public benefit as defined by the Congress under the property clause of the Constitution.⁷ Defining the public interest is a fundamentally political process that is bounded by principles against self-dealing.⁸ This ethical prohibition is not the only limitation, however. There are principles arising from trust theory and from the theory of common ownership that suggest substantive limitations on the way the government deals with those assets.⁹ I will discuss the public trust doctrine more extensively later in this essay. However, suffice here to say that the notion of external limiting obligations on state treatment of common property arises specifically because the property is deemed not to belong to the state, but to the people for whom the state is beneficially managing the asset.

court for failure to produce documents relating to an alleged four billion dollars in mis-managed trust assets. See 37 F. Supp. 2d 6 (D.D.C. 1999). In *Cobell*, the assets belonged to individual tribal members to whom the federal government owes a clearly established trust responsibility. This decision was recently affirmed in the D.C. Circuit in *Cobell v. Norton*, holding that the DOI breached its fiduciary duties to trust account beneficiaries and, therefore, must conduct an accurate accounting. See 240 F.3d 1081 (D.C. Cir. 2001). The Indian Reorganization Act of 1934 returned to tribal ownership unallotted lands. The federal government retained fiduciary obligations to administer trusts and funds arising from allotted, but not yet fee-patented lands, for the benefit of individual Native American beneficiaries.

7. The Constitution declares in article 4, section 3, that "Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States." U.S. CONST. art IV, § 3.

8. Of course, modern public choice theory suggests that rent seeking by government decision-makers is what drives policy. See, e.g., J. Buchanan, *Rent Seeking and Profit Seeking*, in J. Buchanan et al., *TOWARD A THEORY OF THE RENT SEEKING SOCIETY*. For a contrary view, or at least a sustained methodological criticism, see DONALD GREEN & IAN SHAPIRO, *THE PATHOLOGIES OF RATIONAL CHOICE THEORY: A CRITIQUE OF APPLICATIONS IN POLITICAL SCIENCE* (1994). For a good introduction of its use in law, see PHILIP P. FRICKEY & DANIEL A FARBER, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* (1991). Of course, there are also constitutional limitations on the exercise of the legislative power.

9. One of the persistent debates within Federal Indian Law is whether the plenary power that Congress has used to regulate Indian affairs is limited by any external principle. The answer has typically been "no." Similarly, the plenary regulatory power that is given over to the Congress by the property clause would also appear to be unbounded by any external principle. It is not obvious that this is so. To the extent that there is a correlative trust obligation in both contexts, it makes little sense to suggest that the trustee is free to determine what its duties are. Such a conclusion would suggest that the trust responsibility is whatever Congress says it is. However, if a claim is advanced for the existence of an external limiting principle the obligation is to identify both the rough content and the source of that obligation. That, in essence, is the task of this essay.

In 1892, in one of its most famous cases, *Illinois Central Railroad v. Illinois*,¹⁰ the Supreme Court made it abundantly clear that the category of common public property was not a mere artifact of Roman law, but a vital part of existing American jurisprudence.¹¹ That case involved the transfer in fee of submerged land beneath Lake Michigan to the Illinois Central Railroad and the subsequent revocation of the transfer. If the initial transfer was valid, the revocation of the transfer could not be done without compensating the railroad for its loss. If, however, the initial transfer was invalid, then there would be no loss. Justice Field held that although the state held title to the land, it held it "in trust for the people of the State."¹² He went on to argue that the "State can no more abdicate its trust over property in which the whole people are interested. . . than it can abdicate its police powers."¹³ Thus the initial grant was void (or at minimum, voidable). The argument that the court accepted explicitly adopted a conception of *res communes*.¹⁴

10. See generally 146 U.S. 387 (1892).

11. Professor Gregory S. Alexander argues that the public trust doctrine is part of the ongoing doctrinal debate within property law over the correct description of the various roles that property law plays in constituting the legal and more general culture. See GREGORY S. ALEXANDER, *COMMODITY AND PROPRIETY: COMPETING VISIONS OF PROPERTY IN AMERICAN LEGAL THOUGHT 1776-1970* 270-276 (1997).

Since the reinvigoration of the public trust doctrine, there has been considerable debate on the property basis of the doctrine. Some have argued that the "trust" language is really just a way of talking about the civil obligations of the state and should not be understood as referring to the body of law contained within conventional trust categories. I deal with this issue later on in the text. But as I suggest here, to separate the trust language from its property mooring requires that it be tethered elsewhere. Some have suggested that it is an emergent principle in administrative law others have argued that it is a basis for judicial review of both administrative as well as legislative actions. In all events, it must still have substantive parameters to be useful even in this limited way.

12. *Illinois Central Railroad*, 146 U.S. at 452.

13. *Id.* at 453. The Court had previously held that an attempt by the state to divest itself of its police power to be unconstitutional. See *Stone v. Mississippi*, 101 U.S. 814 (1879). "All agree that the legislature cannot bargain away the police power of a State." *Id.* at 817.

14. John S. Miller, Counsel for the City of Chicago, argued:

The bed of Lake Michigan so far as the same is not affected with rights of the riparian owner, is held by the people of the State of Illinois in their sovereign capacity and *de comuni jure*, and wholly in trust for the public [.] And the same was not held by the State in any proprietary or private right or as its demesne. . . .

Id. at 421 (emphasis added). As amplified by *Shively v. Bowlby*:

Lands under tide waters are incapable of cultivation or improvement in the manner of lands above high-water mark. They are of great value to the public for the purposes of commerce, navigation, and fishery. Their

Similarly, the California Supreme Court affirmed this notion of public property in the case of *Ivanhoe Irrigation District v. All Parties and Persons*.¹⁵ There the court noted that:

[T]he state is not the owner of the domestic water of the state in the sense that it has absolute power and dominion over it to the exclusion of the rights of those who have the beneficial interests therein. The title is an equitable one residing in the water users of the state. The state as an entity is the holder of the legal title as trustee for the benefit of the people of the state, all of whom in the last analysis, are the water users of the state.¹⁶

What is important about these two cases (and they are but two in a tidal wave of public trust cases)¹⁷ is that they quite clearly set out the property law foundations for the public interest in the resource decisions being made by the state. These are not cases about the regularity of the administrative process. Instead, they are cases that go to the heart of the subject matter of the

improvement by individuals, when permitted, is incidental or subordinate to the public use and right. Therefore, the title and the control of them are vested in the sovereign, for the benefit of the whole people.

152 U.S. 1, 57 (1894).

15. See generally 306 P.2d 824 (Cal. 1957), rev'd sub nom., *Ivanhoe Irrigation District v. McCracken*, 357 U.S. 275 (1958). The reversal did not implicate the California Supreme Court's reliance on common public ownership.

16. 306 P.2d at 840. The court noted:

The exclusion of the question of title from the case could be justified only on the theory that without question, and as a matter of law, the fee simple unrestricted title to the water is in the state or in its assignee, the United States, or in the United States other than by assignment unaffected by the claims of the land owners in the District as the beneficiaries of a trust. Such a theory finds no support in the present case. A trust relationship has existed at all times here involved, and now exists, between the State of California and the water users of the state, including the water users of the plaintiff District, as to all waters the control of which has been acquired by the state by appropriation or purchase.

Id. at 837. For someone who is concerned about the environment, this case is problematic as a matter of policy. The essence of the case was an attempt by the Department of the Interior to enforce the 160-acre limitation under the Reclamation Act.

17. Since the publication of Professor Joe Sax's seminal article on the public trust doctrine and its application to natural resources, there have been well over a hundred cases in over half of the states invoking the public trust doctrine. See Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970) [hereinafter Sax, *Public Trust Doctrine in Natural Resource Law*]. See also Richard Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 644-45, n.77 (1986) (where he collects the cases that have arisen between 1970 and 1985). See also Lynda L. Butler, *The Commons Concept: An Historical Concept with Modern Relevance*, 23 WM. & MARY L. REV. 835, 840 (1982).

administrative or legislative process involving resource use and allocation: Who owns the property that is being regulated or allocated and what are the attendant duties on the state regarding those properties? As summarized by Professor Epstein:

Two questions have to be addressed. The first is whether the transfer should have been made, and the second is, when made, what level of compensation should be provided? The problem of disposing of public property thus raises the mirror image of public use and just compensation questions under the takings clause of the Fifth Amendment. . . . "No public property may be transferred to private use, without just compensation," payable to the public at large.¹⁸

While the argument advanced here might apply to every publicly owned natural resource, it is not necessary to go that far all at once. In fact, to do so would risk unsettling a variety of arrangements upon which people have organized their lives and their enterprises. Yet prudence is not principle, although it may inform it. There are many resource issues that the government must still resolve, all of which squarely ask the question of governmental obligation. Professor Butler suggests that the fundamental questions are: (1) whether a particular public use of a resource should be protected as superior to conflicting private uses and if so, (2) do private uses substantially impair the public interest, (3) finally, if the private use is a substantial impairment of the public interest is it justified through legislative action undertaken for another superior public purpose.¹⁹ Outside of the radio spectrum, the most pressing question is: Who Owns the Sky?

I. Clean Air as a Common Asset

The atmosphere has not, historically, been thought of as a natural resource that was subject to private ownership. In many ways it was not even thought of as a natural resource. It merely was, as the saying goes, there. Instead, it was presumed to be one of those resources that could not be owned. It was conceived to be like the oceans—too large and unbounded to be reducible to the kind of exclusive possession that characterizes private property.²⁰

18. Epstein, *supra* note 5, at 419 (emphasis in the original).

19. See Butler, *supra* note 17, at 908, 922. My formulation paraphrases her description of both the historical and modern tests.

20. See 2 Hugo Grotius, *De Jure Belli Ac Pacis* 187, 190 (Francis Kelsey trans., 1925) (1625).

To be sure, the water resources of the earth were subject to state claims and various regimes emerged for the allocation of the fresh water resource to private parties. But even the private property regimes continued to reflect a public interest that was not disclaimable. That is the lesson from both the *Ivanhoe* and the *Illinois Central* cases.²¹ Yet the air was different. It could be used but not controlled. Its common law regulation was essentially a subspecies of the law related to real property, since without a claim to damages tied to real property, historically, there was no claim at all.²² Because it could not be reduced to exclusive possession, it was generally categorized within that class of assets that were invested with a public character. To the extent that there was a property interest in the sky, it was as *res communes*.

Of course, the emissions trading schemes that emerged with the Clean Air Act, including the cumulating schemes like the EPA's bubble policy, created concrete measurable interests in the sky and the permits themselves are treated (at least by those outside of government) as a form of highly regulated property.²³ What has changed? Surely, not the resource itself. Instead, the

Some things belong to us by a right common to mankind, others by our individual right. . . Having laid down these fundamental principles, we say that the sea, viewed either as a whole or in its principle divisions, cannot become subject to private ownership. . . The extent of the ocean is in fact so great that it suffices for any possible use on the part of all the peoples. . . The same thing would need to be said, too, about the air. . .

Id.

21. See generally *Ivanhoe*, 357 U.S. 275; *Illinois Central*, 146 U.S. 387.

22. The law of nuisance and trespass were the common law forms that guided land usage. The air was thought of a kind of commons, and the law of nuisance and the law of trespass were the rules that policed the usage of the commons. This overlooks, of course, the damage that landowners might inflict on non-landowners. The law of nuisance, in response to some of the problems, was further subdivided into that of public and private nuisances. For a good discussion of the difference, see WILLIAM H. RODGERS, *ENVIRONMENTAL LAW* (2d ed. 1994) (specifically, Chapter 2: Common Law and the Variations).

23. See, e.g., 42 U.S.C. § 7651b(f) (1994) (for the proposition they are not property):

Nature of allowances. An allowance allocated under this subchapter is a limited authorization to emit sulfur dioxide in accordance with the provisions of this subchapter. Such allowance does not constitute a property right. Nothing in this subchapter or in any other provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. Nothing in this section relating to allowances shall be construed as affecting the application of, or compliance with, any other provision of this chapter to an affected unit or source, including the provisions related to applicable National Ambient Air Quality Standards and State implementation plans.

technology regarding its allocation has changed, but this should not mislead. Air, or properly speaking, the atmosphere, is a resource in which everyone has an interest.²⁴ What that interest is and how it might be equitably allocated are critical questions facing the use of the global commons that the atmosphere has come to represent. If the sky is *res communes*, then it is owned in common and while it might be subject to government regulation, it is not the government's to give away. In fact, all regulation or allocation of the assets that make up the sky are invested with a public interest that defines the limits to actions the government may take in relation to this resource. The federal government may no more trade away the public's interest in the sky than the State of Illinois could sell the shore of Lake Michigan.

One of the issues that drove the creation of United Nations Convention on the Law of the Sea was the prospect that the more technologically and economically advanced countries would be able to capture a greater share of the value of the resources of the oceans. The discussions underlying the treaty negotiations were premised on the notion that the oceans are part of the common property of mankind.²⁵ In the same sense, the skies are also

Id. Yet, for a similar phenomenon, see the discussion of property rights in the radio spectrum in Howard A. Shelanski & Peter W. Huber, *Administrative Creation of Property Rights to Radio Spectrum*, 41 J.L. & ECON. 581 (1998).

Section 301 of the Communications Act of 1934 plainly prohibits private ownership of the radio spectrum. . . Government "control" may be defined weakly as an ultimate, residual power like eminent domain, while "not. . . ownership" may be defined strongly as anything short of fee simple. Substantial property rights lie in between, to be created or restricted pursuant to the Commission's "public interest" authority under the Act.

Id. at 581-82 (footnotes omitted). Professors Ackerman and Elliot argue that the emission reduction credits "are not tax credits; rather, they are a new form of property that can be saved, sold, traded or deposited in special 'banks.'" Ackerman & Elliot, *supra* note 1.

24. Professors Donald Elliot and Bruce Ackerman made this claim in their op-ed piece almost twenty years ago. See Ackerman & Elliot, *supra* note 1. Professor Elliot remarked to me, "I've always felt that the 'breathers' ought to share in the benefits of trading programs." He also makes this argument in E. DONALD ELLIOTT, TOWARD ECOLOGICAL LAW AND POLICY, IN THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 170 (M. Chertow & D. Esty eds., Yale Univ. Press, 1997).

25. United Nations Convention on the Law of the Sea, U.N. Doc. A/ Conf.62/122, reprinted in 21 I.L.M. 1261 (1982), available at <http://www.un.org/Depts/los/unclos/closindx.htm>. The preamble to this states in part:

Desiring by this Convention to develop the principles embodied in Resolution 2749 (XXV) of 17 December 1970 in which the General Assembly of the United Nations solemnly declared inter alia that the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of man-

owned by all. The more technologically advanced among us may not, by virtue of that technology alone, claim by rights a greater share of the public resource than is justifiable within the context of common ownership.²⁶ The public owns this property individually and collectively. Professor Carol Rose has suggested that one of the two essential attributes of public property is that it is capable of monopolization without legal "doctrine securing [the] public against such threats."²⁷ The changes in both the industrial as well as the legal technology has subjected the skies to just this threat of essential monopolization of certain of its qualities. If the skies are a species of public property that is owned in common, then that turn is unjustified and effectively usurps a pre-existing claim of the public.

Every property interest is composed of a variety of attributes.²⁸ The common interest in the skies entails an interest in the quality of the air. Understood this way, it is easy to see that the government regulates the quality of the air on behalf of the people as a way of managing the common resource. Decisions about the quality of this resource are thus not just examples of the general police power of the government to protect the health and welfare of the public. They may be that, but they are also more. They are examples of the government exercising its trust responsibility in relation to the common property interests that the people retain in the skies.

Much of the natural resources of this country have been reduced to private ownership. One of the historic mandates of the Forest Service and the Department of the Interior was, in fact, to

kind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States.

Id.

26. This is analogous to the rules governing riparian owners. Each riparian owner could claim a share of the water resource that was associated with the riparian land, but they could not (historically) take the water out of the watershed or diminish the quality and quantity of the water available to other riparian owners.

27. Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 773 (1986). The second essential element is "the public's claim had to be superior to that of the private owner, because the properties themselves were most valuable when used by indefinite and unlimited numbers of persons—by the public at large." *Id.*

28. Professors Rose and Alexander suggest that, at root, all property interests share both propriety and commodity functions. The propriety function is that which speaks to public ordering and interests that limit the commodity interests in property. The struggle between these two functions is reflected in the ideology that drives both scholarly discourse on property and doctrinal evolution.

transfer the public wealth into private hands.²⁹ Despite the effects of that policy, much of the natural resource base of the nation continues to be owned in common as a public resource. As I have already discussed, the category of public resource is not unitary. There are those assets that are owned in fee by the state (but which theoretically still belong to the polity). These assets may be consumed or alienated subject to the limitations against corruption. There are also those assets that are owned by the people but managed by the government on their behalf. This second category includes the bulk of public resources held by the government.

Excluding those resources that have already been reduced to individual private ownership, the people in common are the owners of the natural resources within the national territory. Important examples of such natural resources are national forest timber, federal grazing lands, the radio broadcast spectrum, interstate waterways, and the atmosphere. These resources are public property, managed by the federal government on behalf of the people. The government may intervene to prevent any private party from appropriating any part of these public resources, but even a failure to intervene does not diminish the public nature of the resource.³⁰ Some resources were viewed historically as so vast as to

29. The Forest Reserve Act of 1891 and the Organic Administration Act of 1897, 30 Stat. 35 (1897) (codified as 16 U.S.C. § 475 (1994)), state that 'No national forest reservations shall be established except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States. . . .' Gifford Pinchot explains, 'The timber, water, pasture, mineral and other resources of the forest reserves are for the use of the people. They may be obtained under reasonable conditions. . . without delay. Legitimate improvements and business enterprises will be encouraged.' GIFFORD PINCHOT, *BREAKING NEW GROUND* 263 (1947). Marion Clawson, former director of the BLM elaborates:

Ours is a private ownership society in many ways, but we have not found extensive public ownership of land incompatible with a private ownership philosophy. One reason is that the publicly owned lands are widely used by private businesses and by individuals. Though publicly owned, the land is dominantly privately used.

Marion Clawson, *AMERICA'S LAND & ITS USES* 27 (1972). For a critical review of this history, see DOUGLAS TRENT, *AMERICAN FORESTS, IN THE PIRACY OF AMERICA: PROFITEERING IN THE PUBLIC DOMAIN* 28 (Judith Scherff ed., 1999).

30. In this case, public property is vastly different from private property. A continued failure to intervene in defense of your interest in your property against specific and identifiable trespassers may lead to a diminishment of the quality of your interest (or loss of the interest all together in the case of adverse possession). There is no prescriptive interest that arises against public property, and it is easy to see why. Just as there is no prescriptive use that arises against a common owner, recognizing a private interest arising against public property would be akin to allowing an interest to arise against yourself.

make policing their use nonsensical except when necessary to act as a referee between private parties.³¹

Assets that are held by the government for the benefit of the people are distinguishable from other kinds of government property. While the structure of ownership varies across the different kinds of resources, the essential point should not be lost: The United States Government holds public property in trust for all the people, not just the people in some kind of symbolic or metaphoric sense. What the government does with these assets is subject to the supervision of the people. Thus defects in systems of representation will be reflected in the quality of the supervision. Taken seriously, the obligations flowing from the public trust doctrine reinforce democratic principles and suggest a pragmatic test on the quality of government. The essence of government corruption is to use the power of the state to convert public assets for personal gain.³² It is in this sense then, while not perhaps, exactly technically accurate in every case, the people always hold beneficial title.

The federal government derives its power to manage public resources from the Constitution. Article Four of the United States Constitution states that "Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or the property belonging to the United States."³³ This section contemplates that the U.S. government will own property that will be held or consumed in the interest of governance. The government will also hold property that needs to be managed rather than distributed or consumed. While the full scope of this paragraph has never been definitively settled, it does grant to the government the power to control and regulate public property.³⁴

31. See Grotius, *supra* note 20. This point about the government function as referee is at the heart of nuisance and trespass jurisprudence. It is made most forcefully in an article by Professor Joseph Sax, *Takings and the Police Power*, 74 YALE L.J. 36 (1964), and in an article by Professor Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

32. See, e.g., DENNIS THOMPSON & AMY GUTMANN, *DEMOCRACY AND DISAGREEMENT* (1996). Of course, this statement of corruption might be understood too narrowly. It is also true that converting public assets for personal gain is usefully understood as a subset of generally violating the fundamentally public nature of the government service, and as such, is merely one of many examples.

33. U.S. CONST. art. IV, § 3. Much of the debate surrounding this provision hinged on whether it was restricted to land and land-based assets in the territories outside of the original thirteen states.

34. See *Kleppe v. New Mexico*, 426 U.S. 529, 539 (1976).

While there is no explicit constitutional limitation on the exercise of this power, the constitution was not written on a blank slate, and thus the power should not be understood to be limitless.

The power contained in the property clause was originally deemed largely related to the disposition of the land outside the territorial limits of the original states, but within the land claimed by the new nation. There was substantial controversy over the exercise of that power in the new territory as the country expanded. Similarly, the federal government took the property in the name of the people. The underlying law as understood at the time of the drafting of the clause would naturally suggest that the power was limited by the people's interest in it.³⁵ The government has an obligation to dispose of public property in a manner consistent with this public trust.³⁶ Professor Epstein suggests the real content of these obligations:

The language of the public trust is far more than an idle metaphor because it is quite clear that the public official in question cannot treat the proceeds of sale as their private property. Instead they are required to hold the moneys received as part of the public treasury, that is, for the benefit of all the individuals who had in the original position some undivided interest in the [property].³⁷

II. The Public Trust Doctrine

The modern use of the public trust doctrine has come in for some heavy sailing lately. The criticism stems either from a belief

In brief, beyond the Fort Leavenworth and Paul dicta, appellees have presented no support for their position that the Clause grants Congress only the power to dispose of, to make incidental rules regarding the use of, and to protect federal property. This failure is hardly surprising, for the Clause, in broad terms, gives Congress the power to determine what are 'needful' rules 'respecting' the public lands. And while the furthest reaches of the power granted by the Property Clause have not yet been definitively resolved, we have repeatedly observed that '(t)he power over the public land thus entrusted to Congress is without limitations.'

Id. (citations omitted).

35. Although the case is morally radioactive for obvious reasons, Taney's discussion in *Dred Scott v. Sandford* of the understanding of the meaning of property within the contemplation of the drafters of the property clause remains instructive. See 60 U.S. (19 How.) 393 (1857).

36. See *Stearns v. Minnesota*, 179 U.S. 223 (1900).

37. Epstein, *supra* note 5, at 421.

that it is too limited by its property roots to be of much use,³⁸ or that it only serves a limited function and distracts us from the serious issues of environmental protection.³⁹ Yet, despite the criticism, the doctrine provides us with a useful window into the justifications for the existence of external limitations on government in its use, management or disposal of property that is invested with the common ownership claim of the people. The evolution of the public trust doctrine is complex, but it is essentially rooted in Roman law and from those laws through the various commentators on Roman law.⁴⁰

The Romans recognized that certain kinds of property were not subject to private ownership or acquisition.⁴¹ Individual control of some resources would run counter to what the Romans conceived of as their natural purpose, and this property could not therefore be subject to private ownership. Such things were called *res extra commercium*. If a resource were excluded from private ownership because by its nature it could only be used in common, it was called *res communes*. Fish, wild game, rivers, and the sea fell into this category. If a thing were set aside for public use by public functionaries or political community, it was categorized as *res publicae*. Public buildings and the furniture within them are

38. See, e.g., Joseph Sax, *Liberating the Public Trust Doctrine from its Historical Shackles*, 14 U.C. DAVIS L. REV. 185 (1980) [hereinafter Sax, *Liberating the Public Trust Doctrine*].

39. See, e.g., Lazarus, *supra* note 17, at 710-716. "Simply put, the public trust doctrine, even if aimed at promoting needed resource conservation and environmental protection goals, is a step in the wrong direction." *Id.* at 715. *But see* Butler, *supra* note 18.

40. Professor Butler reminds us that the commentaries were largely the work of scholars interpreting Roman law rather than binding statements of the laws themselves. Nonetheless, the commentaries has a powerful impact on the evolution of English and through them American property conception. Of course, these conceptions reflected to greater and lesser extents the social substrate up which the interpretations were being applied. See Butler, *supra* note 17, at 850.

41. Dean Daniel R. Coquillette, describes the four other categories of "things" capable of nonexclusive ownership or incapable of ownership besides *res communes*. They are: "*res universitatis*, *res sacre* or *religiosae*, *res publicae*, and *res nullius*." Coquillette, *supra* note 4, at 802-803 (footnotes omitted). While I will not reproduce the long footnotes, a brief description of each category is as follows: *res universitatis* were those things held by a corporate body; *res sacre* or *religiosae* were those things dedicated to the service of god, but also included the walls and gates to a city; *res publicae* were those things which were common to all men "such as rivers or ports." *Id.* Dean Coquillette notes that this category included property belonging to particular people but "which may be used and enjoyed by all men," and *res nullius* were those things or places that belonged to no one. *Id.*

examples of this category of property.⁴² Without looking too far, you can locate in Roman law the antecedent to the contemporary distinction between government property and public property.

The principle of *res communes* was expressed in the English common law and in 19th century American law as *jus publicum*.⁴³ The historic limitation of the reach of the public trust moderated to the extent that public property such as natural resources are owned by the state for the people. How does the state own it? Is it always and everywhere the same as ordinary private fee simple ownership? The lesson of the public trust doctrine is that such properties are held by the state for the people and is limited by those interests that are clearly public. In addition, to the extent that the state ownership is of *res communes*, that ownership is incomplete ownership. The beneficial interest in any *res communes* is held by the people in common. The state does not own a river or the sky like it owns the furniture in the state house. The power of the government to divest the people of their common interest is limited by the interests of the people. Even where such a divestiture is justified, the proceeds of that transaction belong to the people. What this means is that conservation of important resources requires regulation of the use of *res communes* to eliminate friction and prevent waste, and requires limitation on how and by whom natural resources may be acquired in order to prevent waste.⁴⁴ This moderating governmental role is a central tenet in the construction of the modern regulatory state.

The reasoning underlying the basic property categories of public property and their attendant duties has been adopted in a

42. See ROSCOE POUND, AN INTRODUCTION TO THE PHILOSOPHY OF LAW 197-98 (1925). This is a distinction that still makes sense when trying to understand the various ways in which the government owns or otherwise controls resources.

43. See, e.g., *State v. Black River Phosphate Co.*, 13 So. 640, 643 (Fla. 1893): In this holding by the crown two distinct rights are regarded: (1) the *jus privatum*, or right of property in the soil, which the king may grant, and which may be held by a subject, and the grant of which will confer on the grantee such privileges and benefits as can be enjoyed therein subject to the *jus publicum*; (2) the *jus publicum*, the royal prerogative by which the king holds such shores and navigable rivers for the common use and benefit of all the subjects, and, indeed, of all persons of all nations at peace with England, who may have occasion to use them for purposes of trade. This royal right, or *jus publicum*, is held by the crown in trust for such common use and benefit, and cannot be transferred to a subject, or alienated, limited, or restrained, by mere royal grant, without an act of parliament.

Id. (quoting *Commonwealth v. Alger*, 61 Mass (7 Cush.) 53 (1851)).

44. See Pound, *supra* note 42, at 199.

number of jurisdictions.⁴⁵ Court after court has recognized that the government acts as a trustee for the benefit of the people of the various states.⁴⁶ Despite the broad recognition of the limiting function of the trust interest of the people in public property, there is no clear warrant for the brute application of the rules that govern the states to the federal government, especially where there is no explicit constitutional language suggesting the limitation.⁴⁷ The United States Supreme Court has declared that it is up to Congress to say how the public lands held in trust by the government shall be administered.⁴⁸

Congress is the principle agent charged with the power to manage or to dispose of public property.⁴⁹ Congress can therefore sell resources or withhold them from sale,⁵⁰ or dispose of them in any other way consistent with the public interest, fixing the terms on which the property may be used.⁵¹ The only limit that the Constitution imposes on Congress' discretion is that it must act only in a way that is 'needful' in disposing of public property. The meaning of what is "needful" has largely been given over to the Congress to define and the definitions that have emerged have varied with the historical epochs within which the decision was being taken. During the era of settlement and of the opening of the West, what was needful were techniques to transfer resources into the hands of those who would make the best use of them, although counter examples to direct transfers to the private market like the Reclamation Acts and the creation of the national park and national monument system also exist. Thus the deep public interest in the resources controlled by the government was reflected in the various statutes dealing with those resources even during the eras when plutocrats seemed to have their way with the government. The important point to note is that the definition of "needful" always contained within it the implicit limitation implied by the fiduciary duty the trustee government owes to her citizens. Even if there is no explicit constitutional language fixing the dimensions of this duty, there remain meaningful restraints on government

45. See, e.g., Lazarus, *supra* note 17.

46. See, e.g., *Toomer v. Witsell*, 334 U.S. 385, 399 (1948).

47. See *Metro Broadcasting v. F.C.C.*, 497 U.S. 547 (1990), overruled by *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995).

48. See *Light v. United States*, 220 U.S. 523, 537 (1911). See also *Cobell*, 37 F.Supp.2d 6.

49. See U.S. CONST. art. IV, § 3.

50. See *Camfield v. United States*, 167 U.S. 518, 524 (1897).

51. See *Stearns v. Minnesota*, 179 U.S. 223, 251 (1900).

disposal of public property. The lessons from the states are useful in determining just what those limits are. Particularly in cases like *Illinois Central*, where the disposal of property interfered with, or completely frustrated the public's right to use and enjoy the resource, courts have either enjoined the government's action or awarded compensation to those who have been deprived of their public use-rights.⁵²

The easy answer to the disposal question has always been that the conversion of the assets to money yields no loss to the public. It merely converts the value of the resources into another form that is more useful to government in satisfying their normal obligations. Such a defense ignores the value of the resource in its original state, and it removes the capacity of individuals to enjoy the resource. Recycling the trust resource proceeds into the budget does not address these problems. In fact, it may exacerbate them. Moreover, there is no mandate in the Constitution that requires that revenue from a disposition of property be committed to the treasury as opposed to being distributed to the people.

Even though there are no specific examples of the application of the public trust doctrine to the actions of the federal government, there are, nonetheless, a number of examples that illustrate both the existence of public trust, like limitations on federal resource policy, and provide useful analogies for the extension of the doctrine to address the problems associated with the consumption by a subset of the public of the pollution and carbon loading capacity of the atmosphere.

III. Res Communes: Protecting the Sky for the People— Doctrinal and Programmatic Analogies

The public trust doctrine supplies a broad framework that supports the establishment of a mechanism to both capture the value of the sky resource for the people as a whole and to supervise the government dealings in relationship to the carrying capacity of the atmosphere. While the public trust doctrine was historically limited to regulating access to coastal or navigable waters, recent decisions have expanded the doctrine beyond this traditional reach.⁵³ Much of this expansion has been in response

52. See, e.g., *Illinois Central*, 146 U.S. 387.

53. See Butler, *supra* note 17, at 908, 922. See also Sax, *Liberating the Public Trust Doctrine*, *supra* note 38.

to contemporary environmental problems such as implementing a comprehensive management plan for natural resources like the American River in California.⁵⁴ The Mono Lake Case made clear that environmental demands could be made on existing uses of natural resources, and that those uses might have to be adjusted in order to maintain or restore natural ecosystem values.⁵⁵

The public trust doctrine in its specific applications is limited primarily to traditional natural systems. Properly understood, however, the traditional rationale for the public trust doctrine provides a necessary legal cornerstone for legislative action establishing a mechanism to protect the public interest in the sky. I will call the public interest in the various qualities of the atmosphere the skytrust or the skytrust interest, although I am not suggesting that the trust mechanism is the only way to capture the value of the air resource for the public as a whole. Underlying the narrow application to tidal and riparian lands is the much broader concept of public entitlement to the benefits of certain natural systems and the resources that define them. The kinds of resources that come within ambit of *res communes* ought to reflect our understanding of those resources. As our understanding evolves, the kinds of resources subject to this analysis will also change. Thus, the technological capacity to capture the various elements that make up the air resource presents policy makers with the challenge of acquiring the value of the public resource for the people. Congress has discretion to decide what to do with the wealth captured by the sale of carbon or pollution emission permits. The strong version of the interests held by the people in the property to be regulated by the skytrust interests suggests that Congress might be obligated to account for the value of the resource. Moreover, as I will suggest below, how that value ought to be distributed is complicated because of the various kinds of interests the people give up. There are, in addition, other common assets that are regulated for the public benefit in a way analogous to the skytrust interests. Moreover, the public's interest in public assets is not limited to officially recognized ownership interests.⁵⁶ Certain es-

54. See, e.g., Gregory S. Weber, *Articulating the Public Trust: Text, Near-Text and Context*, 27 ARIZ. ST. L.J. 1155 (1995).

55. JOSEPH L. SAX, BRINGING AN ECOLOGICAL PERSPECTIVE TO NATURAL RESOURCES LAW: FULFILLING THE PROMISE OF THE PUBLIC TRUST, IN NATURAL RESOURCES POLICY & LAW: TRENDS & DIRECTIONS, 152 (Lawrence J. MacDonnell & Sara F. Bates eds., 1993).

56. See Gerald Torres, *Taking and Giving Police Power, Public Value, and Private Right*, 26 ENVTL. L. 1 (1996).

tablished expectations while not, strictly speaking, property interests, are important interests that the government risks frustrating only at the expense of high demoralization costs.⁵⁷

A. Examples and Analogies

Federal law reflects the long engagement of the federal government with the management of natural resources and other public properties. Moreover, the long list of federal statutes dealing with the various resources reflect the balancing of private and public interests that is essential to the justification for the creation of a skytrust mechanism.⁵⁸

57. See Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law*, 80 HARV. L. REV. 1165 (1967).

58. See Abandoned Mine Reclamation Act of 1990, Pub. L. No. 101-508, 104 Stat. 1388-289 (codified as 30 U.S.C. §§ 1231-1243); Air Quality Act of 1967, Pub. L. No. 90-148, 81 Stat. 485; Alaska Coal Lands Act, 38 Stat. 741; American Fisheries Act Pub. L. 105-277, 112 Stat. 2681-616; Bartlett Act Pub. L. 89-658, 80 Stat. 908; Big South Fork National River and Recreation Area Act, Pub. L. No. 93-251, 88 Stat. 43 (1974) (codified as 16 U.S.C. § 460ee); Bureau of Mines Acts, 36 Stat. 369 (1910) (codified as 30 U.S.C. §§ 1-16); Burnt Timber Act, 37 Stat. 1015 (1913); California Wilderness Act of 1984, Pub. L. No. 98-425, 98 Stat. 1619; Clean Air Act, 69 Stat. 322 (1955) (codified as 42 U.S.C. §§ 7401-7671q); Coal Lands Act, 17 Stat. 607 (1873); Coastal Zone Management Act, Pub. L. No. 92-583, 86 Stat. 1280 (1972) (codified as 16 U.S.C. §§ 1451-1465); Commercial Fisheries Research and Redevelopment Act, Pub. L. No. 88-309, 78 Stat. 197 (1964); Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767 (codified as 42 U.S.C. §§ 9601-9675); Dam Acts, 34 Stat. 386 (June 21, 1906); Deep Seabed Hard Mineral Resources Act, Pub. L. No. 96-28394, Stat. 553 (1980) (codified as 30 U.S.C. §§ 1401-1473); Deepwater Port Act of 1974, Pub. L. No. 93-627, 88 Stat. 2126 (codified as 33 U.S.C. §§ 1501-1524); Emergency Wetlands Resources Act of 1986, Pub. L. 99-645, 100 Stat. 3582; Endangered Species Act, Pub. L. No. 94-163, 89 Stat. 871 (1975) (codified as 16 U.S.C. §§ 1531-1544); Federal Cave Resources Protection Act of 1988, Pub. L. No. 100-691, 102 Stat. 4546; Federal Flood Insurance Acts, 70 Stat. 1078 (1956) (codified as 16 U.S.C. §§ 4301-4310); Federal Insecticide, Fungicide and Rodenticide Act, 61 Stat. 163 (1947) (codified as 7 U.S.C. §§ 136-136y); Federal Land Policy and Management Act of 1976 Pub. L. No. 94-579, 90 Stat. 2744 (codified as 43 U.S.C. §§ 1701-1785); Federal Onshore Oil and Gas Leasing Reform Act of 1987, Pub. L. No. 100-203, 101 Stat. 1330-256; Federal Power Act, 41 Stat. 1063 (1920); Federal Water Pollution Control Act, 62 Stat. 1155 (1948) (codified as 33 U.S.C. §§ 1251-1387); Federal Water Project Recreation Act, Pub. L. No. 89-72, 79 Stat. 213 (1965); Fish and Game Sanctuary Act, 48 Stat. 400 (1934); Fish and Wildlife Improvement Act of 1978, Pub. L. No. 95-616, 92 Stat. 3110; Flood Control Acts, 39 Stat. 948 (1917); Game and Wildlife Act, 49 Stat. 378 (1935); Gas Guzzler Tax, Pub. L. No. 95-618, 92 Stat. 3180 (1978); Gulf Islands National Seashore Act, Pub. L. No. 91-660, 84 Stat. 1967 (1971); Helium Act, Pub. L. No. 86-777, 74 Stat. 918 (1925) (codified as 50 U.S.C. §§ 164-167n); Hot Oil Act, 49 Stat. 30 (1935); Inland Navigation Rules, 30 Stat. 96 (1897) (codified as 33 C.F.R. pt. 89); Interjurisdictional Fisheries Act of 1986, Pub. L. No. 99-659, 100 Stat. 3731 (16 U.S.C. §§ 4101-4107); Joshua Tree National Monument Act, 64 Stat. 1033 (1950) (codified as 16 U.S.C. §§ 410aaa-21 to -27); Kentucky Wilderness Act of 1985, Pub. L. No. 99-197, 99 Stat. 1351; Land and Water Conservation Fund Act, Pub. L.

Perhaps the best example of federal regulation of an intangible resource that is expressly invested with a public interest is the regulation of the broadcast spectrum. Why should the broadcast spectrum be public property subject to complete regulation by the federal government?⁵⁹ One answer is that the potential for both private monopolization of the resource and the potential for chaos

No. 88-578, 78 Stat. 897 (1964) (codified as 16 U.S.C. §§ 4601-4 through 4601-11); Marine Mineral Resources Research Act of 1996, Pub. L. No. 104-325, 110 Stat. 3994 (codified as 30 U.S.C. §§ 1901-1905); Marine Protection, Research, and Sanctuaries Act of 1972, Pub. L. No. 92-532, 86 Stat. 1052 (codified as 33 U.S.C. §§ 1401-1445); Migratory Bird Treaty Act, 40 Stat. 755 (1918) (codified as 16 U.S.C. 703-712); Multiple Use Mining Act of 1955, 69 Stat. 367 (1955); National Park Service Organic Act, 39 Stat. 535 (1916); National Trails System Act, Pub. L. 90-543, 82 Stat. 919 (1968) (codified as 16 U.S.C. 1241-1251); National Wildlife Refuge Administration Act, Pub. L. No. 91-135, 83 Stat. 283 (1969); Natural Gas Act, 52 Stat. 821 (1938) (codified as 15 U.S.C. 717-717z); Navigation Acts, 30 Stat. 1152 (1899); Northwest Atlantic Fisheries Act, 64 Stat. 1067 (1950) (codified as 16 U.S.C. 981-991); Open Space Land Act, Pub. L. No. 87-70, 75 Stat. 149 (1961) (codified as 42 U.S.C. 1500-1500e); Outer Banks Protection Act, Pub. L. No. 101-380, 104 Stat. 555 (1990); Outer Continental Lands Act, 67 Stat. 462 (1953) (43 U.S.C. 1331-1356); Plant Variety Protection Act, Pub. L. No. 91-577, 84 Stat. 1542 (1970) (codified as 7 U.S.C. 2321-2583); Public Lands Sales Acts, 9 Stat. 51 (1846); Public Rangelands Improvement Act of 1978, Pub. L. No. 95-514, 92 Stat. 1803 (codified as 43 U.S.C. 1901-1908); Quinebaug and Shetucket Rivers Valley National Heritage Corridor Act of 1994, Pub. L. 103-449, 108 Stat. 4752; Reclamation Acts, 32 Stat. 388 (1902); Reforestation Relief Act, 48 Stat. 22 (1933); Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (1976) (codified as 42 U.S.C. §§ 6901-6992k); Rivers and Harbor Act, 46 Stat. 918 (1930); Rural Electrification Act, 49 Stat. 1363 (1936) (codified as 7 U.S.C. 901-950aa-1); Safe Drinking Water Act of 1974, Pub. L. No. 93-523, 88 Stat. 1660 (1974) (codified as 42 U.S.C. §§ 300f-300j-26); Shore Line Erosion Protection Act, Pub. L. No. 89-298, 79 Stat. 1095 (1965); Smith Act, 39 Stat. 506 (1916); Soil Conservation and Domestic Allotment Act, 49 Stat. 163 (1935); Solid Waste Disposal Act, Pub. L. No. 89-272, 79 Stat. 997 (1965) (codified as 42 U.S.C. §§ 6901-6992k); Submerged Lands Act, 67 Stat. 29 (1953) (codified as 43 U.S.C. 1301-1356); Surface Mining Control and Reclamation Act of 1977, Pub. L. No. 95-87, 91 Stat. 445 (30 U.S.C. §§ 1201-1328); Swamp Land Act, 9 Stat. 519 (1850); Tennessee Valley Authority Act of 1933, 48 Stat. 58 (16 U.S.C. 831-831ee); Tin Protection Act, 49 Stat. 1140 (1936); Trans-Alaska Pipeline Authorization Act, Pub. L. No. 93-153, 87 Stat. 584 (1973) (codified as 43 U.S.C. 1651-1656); United States Synthetic Fuels Corporation Act of 1980, Pub. L. No. 96-294, 94 Stat. 633 (1980) (codified as 42 U.S.C. 8701-8795); Upper Colorado Act, 70 Stat. 105 (1956); Virginia Wilderness Act of 1984, Pub. L. No. 98-586, 98 Stat. 3105; Volunteers in the National Forests Act of 1972, Pub. L. No. 92-300, 86 Stat. 147 (1972); Water Desalination Act of 1996, Pub. L. No. 104-298, 110 Stat. 3622; Wetlands and Wildlife Enhancement Act of 1998, Pub. L. No. 105-312, 112 Stat. 2958; Wild and Scenic Rivers Act, Pub. L. No. 90-542, 82 Stat. 906 (1968) (codified as 16 U.S.C. 1271-1287); Yellowstone National Park Protection Act, 28 Stat. 73 (1894); Youth Conservation Corps Act of 1970 Pub. L. No. 91-378, 84 Stat. 794 (16 U.S.C. §§ 1701-1729).

59. The typical answer is, of course, that the Commerce Clause gives Congress the power to regulate interstate businesses. But even that answer does not go far towards justifying the categorization of the broadcast spectrum as a public resource subject to allocation by the federal government.

without some enforceable allocation scheme make the public interest in regulation and control apparent. Moreover, maximizing the public use of the resource increases the value of the broadcast spectrum. Thus the broadcast spectrum is precisely that kind of property that has historically been subject to public ownership.⁶⁰

The regulatory scheme for the Mann-Elkins Act of 1910, as well as title II of the Communications Act of 1932, were largely an adaptation of railroad regulations to the communications field. Because the 1932 Act was organizational not substantive, the background of the Mann-Elkins Act provides the necessary substantive history. Secretary of Commerce Herbert Hoover regarded the airwaves as a public good. At the Fourth National Radio Conference in 1925 he declared:

The ether is a public medium, and its use must be for a public benefit. The use of a radio channel is justified only if there is a public benefit. The dominant elements for consideration in the radio field is, and always will be, the great body of the listening public, millions in number, countrywide in distribution.⁶¹

At the time Hoover made that speech, it was difficult to envision just what the benefits of the broadcast spectrum would be. Since that time, regulation and ownership of the broadcast spectrum has been an evolving area of public policy and governmental action.⁶² The recent innovations in wireless communication merely highlight the continuing value of the resource. The value of the radio spectrum would have been lost as a public resource if it had been treated as a purely private resource or if it had been divested of a public interest during the initial licensure. During Hoover's time the benefits from these atmospheric natural systems were limited to increasing the communication available to the average citizen. Now it seems clear that two more benefits are

60. See Rose, *supra* note 27, at 774.

61. Herbert J. Hoover, *Proceedings of the Fourth National Radio Conference*, Washington D.C. 7 (Nov. 9-11, 1925) (Washington, D.C., Government Printing Office). "The ether is a public medium, and its use must be for public benefit." J. Roger Woltenberg, *The FCC as Arbiter of "The Public Interest, Convenience, and Necessity,"* in A LEGISLATIVE HISTORY OF THE COMMUNICATIONS ACT OF 1934 68 (Max D. Paglin ed., 1989) (quoting Herbert J. Hoover, Speech at the Fourth National Radio Conference (1925)).

62. See generally Howard A. Shelanski & Peter W. Huber, *Administrative Creation of Property Rights to Radio Spectrum*, 41 J.L. & ECON. (1998) (dedicated to analyzing the problems associated with the regulation of the broadcast spectrum in the face of rapidly changing technological capabilities that change not only the uses of the broadcast spectrum, but substantially alter the value profile as well).

readily available: The maintenance of air quality through the reduction of pollution and the concomitant pecuniary benefits arising from selling the carbon-loading capacity of the atmosphere.

The legislative history of the Radio Act of 1927 repeatedly refers to "public ownership of the ether."⁶³ There was no discussion, however, of the public retaining the benefits of that ownership because managing the radio spectrum was perceived as a problem of engineering and not one of economics. In its haste to move in the public interest to eliminate or, at minimum, reduce the chaos then ruling on the airwaves the possibilities of market mechanisms and public ownership were ignored.

That the government regarded the airwaves as public property is implied by repeated demands, following Hoover, that broadcasters reserve portions of their resources for "public interest" programming. That the broadcasters quickly supported this concept may indicate their own understanding that they were using a resource belonging to the public.⁶⁴ Indeed, it would be difficult to infer a more reasonable explanation for the discussions of public benefit than that the broadcast spectrum was "owned" in some sense by the citizens of the nation.⁶⁵

The broadcast spectrum is not the only resource that is managed for the public by regulating private use. The oceans and its resources provide additional examples. The Fishermen's Contingency Fund was created to eliminate conflicts between competing

63. 68 Cong. Rec. 2573 (1927), 68 Cong. Rec. 2872 (1927), stating 'ether is the inalienable possession of the people,' or that ownership of the ether remained with the government.

64. See Glen O. Robinson, *Spectrum Property Law* 101, 41 J.L. & ECON. 609 (1998).

65. Of course, Howard A. Shelanski and Peter W. Huber demonstrate that almost all of the elements of private ownership have been counterfeited for the current license holders and that this effects efficiency in the use of the radio spectrum. See Shelanski & Huber, *supra* note 23. Moreover, Glen O. Robinson in his essay in the same issue of the *Journal of Law and Economics*, notes that the broadcasters would have eagerly subjected themselves to a "public interest" broadcasting requirement in exchange for paying full value for the rights. See Robinson, *supra* note 64. As he puts it:

The choice of characterizations seems to reduce to contest between rational expectations theory, which holds that only the suckers are fooled by government, and P.T. Barnum's theory, which claims that a sucker is born every minute. Of course, for their part, the broadcasters could spot a bargain when they saw it: trading 3 hours of children's programming for free use of a second channel was for them a bargain unequaled since Peter Minuit bought Manhattan for \$24 worth of beads.

Id. at 618.

interests on the outer continental shelf.⁶⁶ The specific conflict addressed by this fund is that between those who exploit the shelf for the fishing resource and those who want to exploit the petroleum resource. Both resources were defined as public property (in fact, both trace their legal roots to those property doctrines covering ownership of wild animals on unclaimed land). The fund allows fishermen to recover for damages that result from outer continental shelf oil exploration by filing a claim directly with the federal government, as opposed to seeking out the party actually responsible for the damage.

The Fishermen's Contingency Fund is designed to compensate fishermen whose equipment is damaged as a result of hydrocarbon exploration on the outer continental shelf.⁶⁷ The Department of the Interior requires every leaseholder under the Outer Continental Shelf Lands Act,⁶⁸ holders of exploration permits, or holders of pipeline easements to contribute to the fund.⁶⁹ A Department of the Interior audit of the party's operation determines the amount that the party must pay to the fund,⁷⁰ although no assessment can exceed \$5,000,⁷¹ and the total amount collected in one year cannot exceed \$2,000,000.⁷² The money is deposited in the U.S. Treasury, where it can be invested to generate additional revenue for the fund.⁷³

The Secretary of the Interior can pay money out of the fund to satisfy actual and consequential damages to fishermen due to damage or loss of fishing gear due to activities associated with outer continental shelf oil exploration.⁷⁴ Fishermen can be compensated out of the fund for up to fifty percent of their economic loss.⁷⁵ The United States also acquires subrogation rights to the claimant's injury, which the government can pursue and deposit any amount recovered in the fund's treasury account.⁷⁶ There is no ceiling on how much a claimant can file for under the statute.

66. *See* 43 U.S.C. § 1801.

67. *See id.* § 1842.

68. *See id.* §§ 1331-1356.

69. *See id.* § 1842(b)(1).

70. *See* 50 C.F.R. § 296.3(b)(2).

71. *See* 43 U.S.C. § 1842(b)(1).

72. *See id.* § 1842(a)(1)(C).

73. *See id.* § 1842(a)(1).

74. *See id.* § 1843(c)(1).

75. *See id.*

76. *See* 43 U.S.C. § 1845(h)(2).

The Fishermen's Contingency Fund is relevant to a mechanism like a skytrust, because the fund affords one party with an interest in a common resource, the outer continental shelf, and a mechanism of recovery for harms suffered as a result of a second party's use of the interest. Fishermen are entitled to fish in the seas, just as much as oil companies are entitled to search seabeds for oil. Invariably, however, conflicts emerge as fishing lines get caught on pipelines, and the fisherman's equipment is harmed without her or him knowing which oil company's pipeline destroyed the line or net. The cost of litigation to recover for such losses would be time consuming and expensive. The imposition of these costs on the fishing industry would lead to the impoverishment of the industry. Moreover, problems of proof would make success less likely and could ultimately lead to the under-utilization of the valuable fish and shellfish resources in the outer continental shelf area.

Because of the problems that these conflicts posed, the federal government stepped in to ensure that fishermen would be compensated for damage to their equipment. The oil companies are required to pay into a compensation fund as a condition of their right to explore and extract resources from the outer continental shelf. While this might be viewed as an insurance scheme, it is merely a way to mediate conflicts in private interests in public property. This is especially important not only where there is a relative imbalance in the power of the claimants, but also where a public good is served by both uses. The importance of this solution to the justification for a skytrust mechanism is plain. A skytrust mechanism is designed to defend the public's interest in the atmospheric resource. Post hoc vindication, however, takes shape as a way to compensate the American people for the loss of their interest in the clean air asset occasioned by existing regulatory regimes as well as those that are contemplated within the context of emission transfers. Air polluters impinge on the quality of life of citizens who suffer a decreased quality of air as a result of air pollution and risk long term losses associated with the excess carbon loading of the atmosphere. As I will discuss later, the imposition of a comprehensive regulatory regime inhibits the private defense of the right to use the common resource and is thus a further justification for a mechanism that will perform that function.

The statutes regulating U.S. timber resources on public lands create a regulatory scheme that seeks to provide people with needed resources while at the same time preventing waste. The

Act allows for the sale of timber from market lands at a fair market value.⁷⁷ The money generated by timber sales is deposited in the Treasury for use by the federal government for activities that ostensibly benefit the American people. In the sale of timber, and other natural resources, the relationship between the government and the people is analogous to that of an agent and the principal. An agent can make sales of a principal's assets and use those proceeds for the benefit of the principal. The agent is limited to authority granted by the principal. Where do we find the limiting power? The conventional answer is that the Congress as a function of its representative capacity can determine what power the principal conveyed. In private markets such a delegation would be rejected as no limit at all. The limits to the authority of the agent ought to be determined by the nature of the interest of the principal. Within the context of the public trust doctrine the relationship is bounded by that of trustee and beneficiary.⁷⁸

The United States has endeavored to adopt a timber policy that maximizes the use of its timber resources. In 1878, Congress enacted section 604 of Title XVI, which allowed for the free use of timber found on land with mineral resources. The statute allowed for the free use of the timber for "building, agricultural, mining, or other domestic purposes."⁷⁹ The right of a person to access this timber was conditioned on approval from the Department of the Interior.⁸⁰ This statute, in an effort to control waste of public resources, conferred on any American the right to use timber that would otherwise be squandered as a result of mining operations. The granting of the mining concession did not carry with it the right to ignore the public interest that was invested in the property being conveyed. The capacity to capture this value lay at the heart of the salvage provision.

77. See 16 U.S.C. §§ 472a(a), (e)(1)(A).

78. This view was crucial to the Supreme Court's analysis of the issue in the *Illinois Central* case, but it is also the primary point of contention among later commentators who sought to find in the case a basis for challenging the procedural regularity and substantive content of an administrative or legislative decision. As Professor Sax put it:

When a state holds a resource which is available for the free use of the general public, a court will look with considerable skepticism upon any governmental conduct which is calculated either to reallocate that resource to more restricted uses or to subject public uses to the self-interest of private parties.

Sax, *Public Trust Doctrine in Natural Resource Law*, note 17, at 490.

79. 16 U.S.C. § 604.

80. See 43 C.F.R. § 5510.0-3.

As far back as 1904, the purpose of this statute was recognized as enabling "settlers in the regions where timber is scarce to utilize it for domestic and mining purposes, and especially to develop the mineral resources of the rough, mountainous districts, where agricultural pursuits could not be profitably followed."⁸¹ The statute was a means to allow people to capitalize on a resource that was held for them by their government.

The analogy to atmospheric regulation is apparent. By enabling the public to capture the value of the pollution and carbon-loading capacity of the atmosphere, people, who are otherwise excluded from exploiting the value of a resource, are given a chance to capitalize on a common resource that is damaged or consumed by other common owners. Section 604 of the Act permitted people other than the owner of the mining concession to use the timber on mineral tracts, thus preventing it from going to waste or allowing mining companies to claim it by default.

The multiple use-sustained yield principle that guides exploitation of the nation's timber resource in theory permits use and conservation to be twin policy goals at the same time as the various interests of the public in the resource are protected. The skytrust shares an insight with the way that the government promotes conservation of timber resources while still allowing use of the natural resource. By focusing on the prevention of waste and (at least in theory) pricing timber usage at market rates, the effect is that those who would consume the resource are limited to an amount of the resource they can afford to consume. By capturing the value of the sky resource for all common owners, a skytrust would prevent waste and overuse. With a mechanism to capture the skytrust interest the deterrent polluters face is that they must pay for the portion of the atmosphere's pollution and carbon-loading capacity that their operation consumes. Polluters cannot continue to simply use whatever amount of the atmosphere that their operation can consume.

The ocean resource has been a focus of federal as well as international regulation largely to reconcile the various competing demands on the resource according to the principles that maximize their present economic and use value while conserving their long term value. The federal mechanism for regulating fishing is aimed at preserving fish as a natural resource that is both com-

81. *United States v. Rossi*, 133 F. 380, 383 (1904).

mercially and recreationally valuable.⁸² The federal scheme for regulating fishing differentiates between domestic fishing and fishing by foreigners in U.S. waters. Regional Fishery Management Councils oversee domestic fishing.⁸³ These councils are under a mandate from Congress to create fishery management plans⁸⁴ for their regions as a means of deterring over-fishing.⁸⁵ These plans specify the optimum level at which domestic fishermen can harvest fish. The only federal guideline for setting this level is that it must prevent over-fishing.⁸⁶ Over-fishing is defined as the rate of fishing at which the long-term viability of the stock of fish is threatened.⁸⁷ The Regional Fishery Management Councils have complete discretion in the regulation of fishing in their regions. The councils can, for example, allow domestic fishermen to fish without a permit. If the council chooses to require permits, domestic fishermen must obtain a permit and pay the fees for it to the Secretary of Interior.⁸⁸ Foreign fishermen are prohibited from U.S. waters unless they have obtained a permit from the Secretary of the Interior or there is an applicable international treaty⁸⁹ that grants them rights in U.S. waters. Like domestic fishermen, the take of foreign fishermen is limited by the region's fishery management plan.⁹⁰

In the same way that the goals which are part of the regulation of the timber resource, the regulatory scheme created by the federal government to oversee fishing attempts to mediate commercial and non-commercial interests in a common resource. The point of the regulations is to assure that the Congress sets the limits on the use of the resource at a sustainable level in order to protect the interests of those currently unable to benefit from the economic value of the resource. This restriction prevents the total capture of the resource value by those with the current resources or technology that would enable them to do so. Like the fishing conservation regulations, the essence of a skytrust mechanism is contained in the effort to balance the interests in the atmosphere between polluters with the interest of other common owners.

82. See 16 U.S.C. §§ 1801(a)(1), (3).

83. See *id.* § 1852(a).

84. See *id.* § 1852(g).

85. See *id.* § 1851(a)(1).

86. See 50 C.F.R. § 600.310(b).

87. See *id.* § 600.310(c).

88. See 16 U.S.C. § 1853(b)(1).

89. See *id.* § 1821(a)(1).

90. See *id.* § 1853(a)(4)(B).

Without a mechanism like a skytrust, polluters have the ability to capitalize on the atmosphere in a manner that the non-polluting public cannot.⁹¹ The skytrust allows the public to capitalize on their interest in the atmosphere, from which they would otherwise be excluded. In addition, by limiting the polluters' use of the atmosphere to what they can afford, like the fishermen, those with the technological capacity to do so cannot use whatever amount they desire, only that part they have acquired from the public.

The regulation of resources to balance consumption with sustainability in order to vindicate the public's continuing interest in the resource is not the only source of support in policy for something like a skytrust. There are other examples of trusts established by the government to benefit the public that begin with a public resource as the corpus of the trust. Moreover, the federal government is not the only level of government that has used trusts as a way of capturing value of public resources for the people. The use of the trust vehicle is important, because it creates enforceable obligations for which there is clear guidance arising from private practice that can directly inform the limitations on the exercise of governmental power.

Although they are not a perfect fit, and the ways in which the trustee's obligations have been adjudicated has often left much to be desired, a specific historic example of the use of a trust mechanism to manage public resources can be found in the land trusts that southern and southwestern states hold for the benefit of public school districts. These trusts date back over 200 years.⁹² When establishing the rules governing the Northwest Territory, Congress instituted the practice of reserving sections of land in every township for the maintenance of public schools.⁹³ The Land Ordinance of 1785, which provided for the survey and sale of the

91. Critics might assert that the general public capitalizes on its interest in the atmosphere's pollution loading capacity by driving cars and making use of other conveniences of modern life that add to the atmospheric pollution load. While it is true that for some areas of the country, southern California and the Los Angeles basin being the signal examples, private automobiles are the principal culprits in the accumulated air pollution, the suggestion that the capitalization is the same is misleading. First, the burden of reducing automobile air pollution is on the consumer of automobiles. As the older fleet of cars is retired, the new fleet must meet ever more stringent pollution control standards. The added costs of these measures are recycled into the cost of the cars themselves. Second, to the extent that this is true, the profits associated with pollution reduction are captured by the manufacturers rather than by the consumers.

92. See *Papasan v. Allain*, 478 U.S. 265, 268 (1986).

93. See *id.*

Northwest Territory, "reserved the Lot No. 16, of every township, for the maintenance of public schools within the said township."⁹⁴ In 1802, when Ohio gained statehood, Congress granted Ohio the lands that had been reserved under the 1785 Ordinance for the use of Ohio public schools.⁹⁵ Following the Ohio example, "grants were made for common school purposes to each of the public-land States admitted to the Union."⁹⁶

Three examples of states that have maintained land trusts to benefit public schools are Mississippi,⁹⁷ Arizona,⁹⁸ and Utah.⁹⁹ When Arizona became a state, the Federal government granted to it four sections in each township—an approximate total of eight million acres—for the support of common schools.¹⁰⁰ These lands are considered federally donated lands, held in trust by the State.¹⁰¹ The Supreme Court has recognized that the United States "has a continuing interest in the administration of both the lands and the funds which derive from them."¹⁰² Thus, title to these public school trust lands are not fully vested in the State, but are rather encumbered by trust obligations the administration of which the Federal government, as grantor, has an interest in overseeing. Observe that the sovereign status of the state did not prevent the enforcement of the trust obligations.

The terms of Arizona's (and New Mexico's) land trust were originally set forth in the New Mexico-Arizona Enabling Act 36 Stat. 557.¹⁰³ This law describes the manner and means by which Arizona may use and dispose of the land and funds derived from it.¹⁰⁴ In *Lassen v. Arizona*, the Supreme Court asserted its federal administrative interest in the trust's maintenance.¹⁰⁵ The Court addressed the questions of (1) whether Arizona could obtain trust lands for purposes not designated in the grant (specifically to lay

94. *Id.* (citing 1 LAWS OF THE UNITED STATES 565 (1815)).

95. *See id.* at 268-69.

96. *Andrus v. Utah*, 446 U.S. 500, 506-507, n.7 (1980).

97. *See, e.g.*, 478 U.S. 265.

98. *See, e.g.*, *Alamo Land & Cattle Co., Inc. v. Arizona*, 424 U.S. 295 (1976); *see also Lassen v. Arizona*, 385 U.S. 458 (1967).

99. For a discussion of Utah and other states' dilemmas in using public school lands within trust duties while also producing revenues for public schools, see generally Scott T. Evans, *Revisiting the Utah School Trust Lands Dilemma: Golden Arches National Park*, 11 J. ENERGY NAT. RESOURCES & ENVTL. L. 347 (1991).

100. *See Lassen*, 385 U.S. at 461 n.2.

101. *See id.* at 459.

102. *Id.* at 460.

103. *See id.* at 461.

104. *See id.*

105. *See Lassen*, 385 U.S. at 461.

State highways), and (2) the standard of compensation that Arizona must pay to the trust in compensation for the land it uses.¹⁰⁶

In answer to the first question, the Court began with the Enabling Act, which provided that “lands be sold or leased only to the highest bidder at a public auction,” that “no lands be sold for a price less than their appraised value,” and that “[d]isposition of any said lands. . . contrary to the [terms of the trust] shall be deemed a breach of trust.”¹⁰⁷ The Court was therefore to determine whether the State’s use of the land for roadways constituted a breach of trust under the Act.¹⁰⁸ After examining the legislative history of the Act, the Court observed that the purpose behind the terms was to assure that the trust received full and fair compensation for the use and disposition of trust lands.¹⁰⁹ The Court accordingly held that the State’s use of trust land for public highways was consonant with the trust as long as the trust received compensation of at least the appraised value of the property interest used.¹¹⁰ The Court further held that the compensation owed the trust could not be offset by the value-enhancement represented by the roads as improvements.¹¹¹ In a similar way, the public is not compensated for its loss of value in the sky resource merely because pollution is reduced. That may be an ancillary benefit, but it is not an offset against any claims that might be constructed. This is a good point to be reminded of the construction of the obligations suggested by Professor Epstein:

The problem of disposing of public property thus raises the mirror image of public use and just compensation questions under the takings clause of the Fifth Amendment . . . ‘No public property may be transferred to private use, without just compensation,’ payable to the public at large.¹¹²

This formulation not only locates a constitutional obligation for the management of *res communes*, but keeps the focus on the public dimension of the property.

A few important implications for a skytrust arise from the Court’s analysis of the school land trust’s maintenance. First,

106. *See id.*

107. *Id.* at 462.

108. *See id.*

109. *See id.* at 463-464.

110. *See Lassen*, 385 U.S. at 465-466.

111. *See id.*

112. Epstein, *supra* note 5, at 419 (emphasis in the original).

Congress enacted the public school land acts for the immediate purpose of benefiting citizens, and they are arrangements for managing a natural resource that is subject to laws of scarcity and competing uses. Second, the beneficiary school systems and the highway department are thus competing users who each assert a public interest as their fundamental motivation for their use of the resource—much as citizens and polluting facilities in competition for the atmosphere.¹¹³ Finally, the Federal government maintains an interest in the trusts' maintenance through its status of grantor.

In this context, the Court in *Lassen* performed a traditional "intent-of-the-grantor" analysis to weigh the competing uses of the land against the fundamental interests of the trust. In holding that Arizona may dispose of lands used for roads without an auction, the Court recognized that the State highway department, as a competing user, could obtain its interest without an auction (recognizing an attribute of state sovereignty that was not explicitly limited in the creation of the school land interest). In holding that the State must, however, compensate the trust for the full market value of the land, the Court recognized that a balance between competing users must not violate the fundamental purpose of the trust. Perhaps most strikingly analogous to a skytrust in *Lassen* is the Court's rigid refusal to allow the improvement value of the road to offset the compensation due to the trust.

This is analogous to the argument underlying a skytrust, that citizens must be compensated for the diminishment of their interest in a clean atmosphere, without regard to any offsetting benefits that polluters confer by the production of electricity or the production of jobs or other benefits. To permit such offsets is to allow the person who reduces the quality (and quantity) of a resource to determine its value unilaterally. It also permits the substitution of incommensurables. In short, *Lassen's* brief analysis provides a powerful analogy to the logic of something like a skytrust, and is also a good example of a governmentally-maintained trust for specific public benefit which bears the essential incidents of a private trust—fiduciary obligation, the requirement that fair compensation be received for the sale or other disposal of

113. The Clean Air Act (CAA) and the Public Utility Holding Company Act represent the competing public interest spheres at stake in the emissions trading problematic.

trust property, and recourse to the courts to enforce these obligations.¹¹⁴

If the property in question is characterized as trust property, the logical inquiry is who are the beneficiaries to the trust? Essential to the argument I have been making is that everyone holds an interest in the sky. Thus, any holder of that interest has a right to seek an accounting either from his fellow users or from the state that has allowed an unequal distribution of allocations to develop. The mechanism of this accounting is difficult to describe, especially if the government is the agent to be held to the accounting. There are substantial limitations to government liability that can only be overcome by the government itself.¹¹⁵ Nonetheless, the first step is to locate the interest and the claim to a remedy for the diminution of resource quality in common interest holders. The summary is that each citizen has a legal interest and entitlement to defend the common asset of clean air. Once the atmosphere is understood as a common asset it is easy to see that this is not a bizarre idea. As Dean Coquillette has demonstrated, "the English by the sixteenth century had almost created [a privately enforceable legal remedy for disturbing the enjoyment of the *res communes*] in the laws of the forest . . . [I]njury to those who had rights to use the forest was subject to three nuisance ac-

114. See *Alamo Land & Cattle Co., Inc. v. Arizona*, 424 U.S. 295 (1976). The Court there held that the trust was entitled to the current full value of the land, minus the value of a burdening leasehold interest, in compensation for federal condemnation of trust land. See also *Papasan v. Allain*, 478 U.S. 265. In that case, Mississippi had exchanged trust lands that were formerly clouded by Indian title for railroad bonds the payment of which was made near-impossible by Civil War destruction. The affected districts sued the State for breach of fiduciary duty and violation of the Equal Protection Clause, on the theory that the state of affairs pursuant to the ancient transaction had left the affected school districts vastly under subsidized. The Court held that the breach of trust claim was barred by the Eleventh Amendment, because the claim sought damages for a past violation. However, the Court held that the Equal Protection Claim was viable even though it rested on the same theory underlying the breach of trust claim.

115. The foundation for this claim lies in the doctrine of sovereign immunity. The United States Supreme Court has made it harder in the last few terms for the Congress to abrogate state sovereign immunity. The lode star case is *Seminole Tribe of Florida v. Florida*, 517 U.S. 44 (1996), but two sets of opinions in the 1998-99 term further cemented this trend towards restricting access to federal courts for actions of the states. See *Alden v. Maine*, 527 U.S. 706 (1999) (invalidating the provisions of the Fair Labor Standards Act that authorize private suits against states in their own courts without their consent); see also *College Savings Bank v. Florida Prepaid Postsecondary Education Expense Board*, 527 U.S. 666 (1999) (holding that Congress was barred by the Eleventh Amendment from amending the Lanham Act permitting suits in federal court against states for false advertising).

tions. . . ."¹¹⁶ Most of the injuries that were remedied by these actions were initially tied to ownership of a freehold tenement,¹¹⁷ but even that limitation was abandoned by the end of the 16th century.¹¹⁸ This development of the right to protect an interest in the *res communes* was predicated on the idea that the right that was being defended was a right to use rather than a right to exclusively possess an asset held in common. The idea of common ownership required a correlative right in every other claimant. One difficulty with carrying these arguments forward is that the legal claims predicated on common use rights collapsed in the face of the enclosure movement.¹¹⁹ One of the critical elements of the enclosure movement was the abolition of common rights. Elimination of competing claimants was often accomplished through the device of a fictive agreement to consolidate holdings that was ratified by a decree in the Chancery courts.¹²⁰

Thus, there are competing traditions within the law. Explanations for the elimination of common land to enclosure varies with no settled theory carrying conclusive weight, especially because the rate of enclosure and the source of legitimization varied from district to district in England.¹²¹ Yet, despite the elimination of one form of common ownership (and perhaps the one most likely to yield) other forms persisted. As I have demonstrated, these forms have continued vitality largely within the context of public resources that were thought to originate in public ownership or which were understood to be incapable of exclusive possession. Perhaps more importantly, the form of obligation that flows from continued recognition of a public interest in this class of public resource also recognizes the perils of monopoly where the private capture overwhelms the common interest. Thus, the critical point supporting the establishment of the skytrust is not that the

116. Coquillette, *supra* note 4, at 804-805 (footnotes omitted).

117. *See id.* at 806-07.

118. *Id.*

119. *See* J.A. YELLING, COMMON FIELD AND ENCLOSURE IN ENGLAND 1450-1850 (Archon Books 1977).

120. *See id.* at 7-10. The fictive agreement was only one method of consolidating enclosures, Yelling's book details the other methods, including legislative action, that ultimately concluded in the complete dominance of the primacy of exclusive ownership as the benchmark definition of property. This was captured by Coke and imported into the property jurisprudence of the American colonies. Nonetheless, Butler argues that traces of the commons traditions survived into colonial America and moved from actions between private parties to include what we call the public trust doctrine today. *See* Butler, *supra* note 18.

121. Yelling, *supra* note 119, at 30-95.

government has the authority to act. Instead, the government has an obligation of to act.¹²² This obligation stems from the basic norms underlying the common law allocation of right and duties. This is especially important given the current taking jurisprudence in the Supreme Court that supposes that the limits of the common law define the reach of state regulatory authority.¹²³ Connecting the common asset claims for the skytrust to the common law structure of property entitlements is an essential analytic move.

B. Nuisance as an Historical Defense of a Common Right to Clean Air.

As suggested in the brief discussion of the use of nuisance and 'actions on the case' to support the right of users of common assets to be free from interference from other private uses,¹²⁴ the history of nuisance law supports the proposition that each citizen possesses an interest in clean air that is impaired by current emissions trading schemes. This argument does not assert that citizens hold exclusive property rights in the atmosphere. Rather, it recognizes that each person holds an entitlement to be free of harmful air pollution and that emission trading transactions must compensate citizens in return for the diminishment in those entitlements. What follows is the structure of the argument that the evolution of the common law nuisance doctrine that provides a policy basis for the skytrust.

At common law, a defendant's nuisance interferes with an intangible property right held by the plaintiff—namely, the right to be free of the nuisance. One way of adjudicating the plaintiff's claim has been to judicially enforce the sale of the plaintiff's enforcement right to the defendant-polluter.¹²⁵ In this sense, the plaintiff's property right to be free of the nuisance is understood as a negotiable interest, the taking of which must be compensated by

122. Epstein and Sax agree on this point.

123. Professor Alexander criticizes the limited historical foundation for that specific limitation. See Alexander, *supra* note 11.

124. See Yelling, *supra* note 119.

125. See Calabresi & Melamed, *supra* note 31 (discussing the possibility of four rules governing nuisance actions: two "property rules" and two "liability rules." The chief example exploring these rules is what the state of affairs would be between a polluting factory owner and a homeowner depending upon the allocation of property rights).

the defendant. A nuisance claim is in this sense a transferable entitlement to the value of the nuisance-creating behavior.¹²⁶

The Clean Air Act was the legislative response to widespread public nuisance problems,¹²⁷ justified in part by the finding that air pollution constitutes a nuisance in the form of a threat to the health and welfare of the people.¹²⁸ As a federal regulatory scheme, the Clean Air Act has effectively preempted the citizen's common law right of action against air polluters who are subject to the Act, and replaced it with the citizen's enforcement action.¹²⁹

The enforcement action, therefore, is the citizen's only remedy against nuisances created by air pollution emitters. This provision has imported the citizen's common law property right against nuisance into the statutory enforcement scheme. Therefore, as to emissions subject to the Act, whatever remains of the citizen's entitlement to be free of air pollution nuisance exists in the right of enforcement action. However, under current emissions trading schemes, polluters can effectively avoid potential enforcement actions by purchasing rights to pollute, not from potential citizen plaintiffs, but from other polluters. This purchased right to pollute is the functional equivalent of the plaintiff's common law transferable entitlement to clean air. Instead, emissions trading allows polluters to profit from the purchase and sale of pollution entitlements. Under current emissions trading standards, a polluter who buys enough allowances may pollute at levels that would otherwise violate the Act, and citizens are divested of their traditional rights of action against such emissions.¹³⁰

126. Again, to use the Calabresian heuristic, if the homeowner has the right to be free from pollution, then the factory owner can pollute only if he compensates the homeowner. If, however, the factory owner has the right to pollute, the homeowner can escape the pollution only if he can afford to pay the factory owner to stop polluting (or to reduce the pollution to an acceptable level: efficient pollution level). In essence, the initial entitlement is really merely an assignment of a right to a potential stream of income. See *id.*

127. I am ignoring for the time being the distinction between public and private nuisances.

128. One of the current theatres of 'federalism' conflict on the Supreme Court arises from the notion that there is no general federal police power and thus the power to interfere in the normal workings of the market stems from background common law principles that both establish and limit governmental regulatory authority.

129. See CAA § 304, 42 U.S.C. 7604 (1994).

130. As the law and economics literature illustrates, there may be good policy reasons for making this trade-off, but the virtue of the policy should not blind us to the fact that it is a trade-off. See Richard Toshiyuki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9

When the regulatory framework is understood in this way, current emissions trading functions to diminish, without compensation, the citizen's entitlement to be free of pollution. Whatever the salutary benefits of such a program may be, they run contrary to the equitable principles underlying the common law of nuisance. It fails to adequately protect the citizenry's legal and equitable interests, because it allows a nuisance to lie without providing a remedy. An important justification for reserving to citizens the right of an enforcement action is that it reserves a portion of the traditional power of injured persons to enforce public obligations without benefit of the state. To the extent that emissions trading limit the ability to self-protect, that justification is undermined.

One promise of the skytrust is that it will protect the citizen's entitlement. By making every citizen a beneficiary of the profits from each emissions trading transaction, the skytrust will capture for each citizen a portion of the value of the transfer of the right to enjoin air pollution. In the context of public trust theory, this promise is critical to the validity of the underlying transfer. As Professor Epstein notes:

But why should the grant remain beyond challenge if it is not revoked? The underlying fear is both familiar and recurrent: The first legislature has been bought off. If so, then the next legislature could be bought off as well. To condition challenge to the grant on its repeal means that in some cases needed challenges will never take place. Any citizen should have standing to challenge a major transfer of public assets.¹³¹

A mechanism like a skytrust would bring the emissions trading program in line with the equitable principles of nuisance law—thus better preserving the rights and interests protected by the preempted common law doctrines—and allow the Act to more adequately defend the interests of its beneficiaries: Private citizens. The following discussion develops the summary just provided and suggests the legal and theoretical underpinnings for such an argument.

DUKE ENVTL. L. & POL'Y F. 231 (1999). See also David Driesen, *Free Lunch or Cheap Fix? The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVTL. AFF. L. REV. 1 (1998).

131. Epstein, *supra* note 5, at 426 (emphasis added).

(1) The Nuisance Claim as a Property Right

The concept of the nuisance claim as a property right has existed in the common law since the late 19th Century.¹³² However, the modern revitalization of this principle occurred in 1970.¹³³ In *Boomer v. Atlantic Cement Co.*,¹³⁴ the New York Court of Appeals fashioned a nuisance remedy that recognized a plaintiff's nuisance claim as a transferable property right. In that case, the plaintiff sued a neighboring cement plant operator to enjoin the noxious emission of air pollutants.¹³⁵ The trial court found that a nuisance existed and awarded temporary damages, but denied plaintiff an injunction.¹³⁶ Plaintiff appealed.

On appeal, the defendant argued that an injunction was not proper because it would impose a far greater cost on the owner of the plant than the nuisance itself imposed on the plaintiff.¹³⁷ The New York Court of Appeals disagreed, observing that under New York nuisance doctrine a finding of nuisance required issuance of an injunction regardless of the relative hardship of such a remedy to the defendant.¹³⁸ The court recognized, however, that an injunction had to be avoided because it would require the plant to close down at once.¹³⁹ The court therefore faced the task of replacing an injunctive remedy with money damages while still following the principles of nuisance law. The solution of the court was to grant an injunction unless the defendant paid the plaintiffs permanent damages to compensate them for past, present, and future losses created by the nuisance.¹⁴⁰

Underlying this award was the theory that the defendant was purchasing a servitude on the plaintiff's land, that is the plant owner was buying that part of their 'use and enjoyment' interests which defendant's nuisance impaired.¹⁴¹ This decision reinforced the view that the plaintiff's nuisance claim is a property right that the court could force a defendant to purchase from the plaintiff if

132. See *Story v. New York Elevated R.R.*, 90 N.Y. 122 (1882).

133. See Louise A. Halper, *Nuisance, Courts and Markets in the New York Court of Appeal, 1850-1915*, 54 ALB. L. REV. 301, 301 (1990).

134. See generally 26 N.Y. 2d 219 (1970). This case is the one that formed the basis for Calabresi's heuristic in his article. See Calabresi & Melamed, *supra* note 31.

135. See *Boomer*, 26 N.Y.2d at 222.

136. See *id.* at 223.

137. See *id.*

138. See *id.* at 224.

139. See *id.* at 225.

140. See *Boomer*, 26 N.Y.2d at 226.

141. *Id.* at 228 (citing *United States v. Causby*, 328 U.S. 256, 261, 262, 267 (1947), to support the 'servitude on land' theory of nuisance).

an injunction was impracticable. *Boomer* was not the first case to clearly enunciate this property interest; it had been recognized, implicitly and explicitly, for much of this century.¹⁴²

The *Boomer* decision has been characterized as the “paradigm for the modern-day application of nuisance law in environmental torts.”¹⁴³ *Boomer* and its conceptual predecessors, *Story v. New York Elevated Railroad*¹⁴⁴ and *United States v. Causby*,¹⁴⁵ support the general proposition that in awarding either damages or an injunction for nuisance, courts allocate the ownership of a property right: a damages award is the forced sale of an easement from the plaintiff to the defendant; an injunction is the judicial prohibition of the defendant’s future “trespass” against the plaintiff’s intangible property right in air, quiet enjoyment, light, etc. It follows in principle that where a cause of action in nuisance exists for air pollution the complainant holds a defensible property right in being free from that pollution even where the interest is not connected to a freehold interest in land. The granting of the power to protect that right is itself an entitlement that the law recognizes and which may trigger the judicial process of enjoining the polluter’s activity, or ordering compensation to the plaintiff for his lost property interest.

(2) Effects of the Clean Air Act on the Underlying Nuisance Claim

The discussion of nuisance provides another way to understand and analyze the citizen’s entitlement to clean air. The early discussion of public rights in common property was one side of the coin. The nuisance doctrine is the remedy that defines the contours of the right, but merely because a remedy does not exist,

142. See Halper, *supra* note 133. Halper recounts the transformation of New York nuisance law from strict liability and negligence principles (nuisance as a tort) to property principles (nuisance as a taking). She sees an early precedent to *Boomer* in *Story v. New York Elevated R.R.*, 90 N.Y. 122 (1882), where the court found that owners of property abutting a train line had incorporeal property interests in light, air, access and quiet enjoyment, in the form of easements that were permanently injured by the elevated railway. See Halper, *supra* note 134, at 341. See also *Bormann v. Bd. of Supervisors*, 584 N.W.2d 309, 315-517 (Iowa 1998) (recognizing that for over a century, the right to maintain a nuisance is an easement, and holding that the granting of immunity from a nuisance constitutes a taking from the servient estate that must be compensated under the Fifth Amendment).

143. H. Marlow Green, *Common Law, Property Rights and the Environment: A Comparative Analysis of Historical Developments in the United States and England and a Model for the Future*, 30 CORNELL INT’L L.J. 541, 556 (1997).

144. See generally 90 N.Y. 122.

145. See generally 328 U.S. 256.

does not entail the absence of the right. Nuisance law posits that, generally, courts will protect public and private rights to be free from pollution that interferes with the use and enjoyment of real property or which poses a threat to the public's health and welfare. The word "nuisance" is a term of art applicable to a common law cause of action. "Nuisance" describes the defendant's injurious activity, and signals the legal conclusion that such activity has invaded the public welfare of a plaintiff's rights in the use and enjoyment of his property.

Of course, the common law never recognized air pollution to be a nuisance per se. The determination of whether certain conduct constitutes a nuisance is fact-dependent and case-specific.¹⁴⁶ However, under the common law anyone with standing to sue—anyone who claimed an injury to a recognized interest—had a right to seek a remedy for nuisance harms inflicted by air pollution. That right of action could be characterized as a legal entitlement—if not property for all purposes sufficiently property-like for purposes of vindicating a right in a common resource.

The law of nuisance is divided into two categories: public and private. The Second Restatement of Torts defines private nuisance as "a nontrespassory invasion of another's interest in the private use and enjoyment of land."¹⁴⁷ Public nuisance is one that "interferes with a communal right and that may lead to civil injunction or criminal prosecution."¹⁴⁸ Traditionally, in order to have standing to press a public nuisance claim, a plaintiff has been required to show that his injury was different in kind from that which the general public suffered as a result of the nuisance.¹⁴⁹ Due to its local and regional impacts, air pollution has the potential to be a private or a public nuisance, depending upon the injury being asserted and the plaintiff's proximity to the polluter.¹⁵⁰

146. See cases collected in RODGERS, *supra* note 22, ch. 2.

147. RESTATEMENT (SECOND) OF TORTS § 821D (1977).

148. BLACK'S LAW DICTIONARY 447 (1996).

149. See Michael Skotnicki, *Private Actions for Damages Resulting from an Environmental Public Nuisance: Overcoming the Barrier to Standing Posed by the "Special Injury" Rule*, 16 AM. J. TRIAL ADVOC. 591, 595 (1992).

150. Some old cases suggest that the nuisance action was the traditional legal recourse for defending common property interests. See *State v. Black River Phosphate Co.*, 13 So. 640. In discussing the rights of commoners to use of riparian waters, the Florida court drew upon pre-colonial English law:

In *Com. v. Alger*, 7 Cush. 65, it is said that by the common law of England as it stood long before the settlement of the colony of Massachusetts the title to the land or property in the soil under the sea, and over which the

Since 1981, federal courts have recognized that the regulatory framework of the Clean Air Act has replaced the federal common law cause of action in nuisance.¹⁵¹ This recognition followed the Supreme Court's decision in *City of Milwaukee v. Illinois and Michigan*,¹⁵² in which the Court held that the Federal Water Pollution Act Amendments of 1972 displaced the state's federal com-

tide waters ebbed and flowed, including flats on the seashore lying between high and low water mark, was in the king as the representative of the sovereign power of the country. But it was held by a rule equally well settled that this right of property was held by the king in trust for public uses established by ancient custom or regulated by law, the principal of which were for fishing and navigation

The specific nature of the trust in favor of all the subjects of the realm upon which in England the sovereign held the domain of navigable waters and shores, and the soil thereunder, was that those subjects should have the free use of such waters and shores. The waters, though the domain over and right of property in them were in the crown, were of common right, public for every subject to navigate upon and fish in without interruption; and, though the right of property in the soil to high-water mark was likewise in the king, yet the shore was also of common right public. The use of each was in the subjects for the inherent privileges of passage and navigation and fishing, as public rights, and since Magna Carta the king has had no power to obstruct navigation or grant an exclusive privilege of fishing; and the right of the people in this respect cannot be restrained or counteracted by the sovereign as the legal and sole proprietor. Any grant of the soil by the king is always subservient, in the hands of the grantee, to the public right mentioned, and is void in so far as it conflicts with these rights. In England, the right of property in navigable waters, as stated above, being in the king, he could abate at his pleasure every purpresture or encroachment thereon that made several to the author of it that which ought to be common to all, whether such encroachment was a nuisance or not; nor could he license anything that was a nuisance to such common right. Whether or not a particular encroachment was a nuisance was always a question of fact, and not one merely of law. Though an erection below high-water mark, or even below low-water mark, be a purpresture, and abatable at the king's pleasure, it was not necessarily a nuisance.

Id. at 643-644 (citations omitted).

Note that the encroachment on the common use and enjoyment was deemed a nuisance, back when the traditional remedy for nuisance was an injunction. The natural resource was held in trust by the sovereign for the citizens' benefit, and the means of enforcing the trust was the nuisance action. Now, since *Story v. New York Elevated Railroad and Boomer v. Atlantic Cement Co.*, the nuisance action is recognized as a transferable property right.

151. See, e.g., *New England Legal Foundation v. Costle*, 666 F.2d 30, 32 (2d Cir. 1981) (holding that the EPA's approval of the station's sulfur emissions precluded Appellants from asserting a nuisance complaint), and *United States v. Kin-Buc, Inc.*, 532 F. Supp. 699, 702 (1982) (finding that, since Congress has addressed the problem of air pollution in the CAA, the statute pre-empts plaintiff's federal common law claim of nuisance).

152. See generally 451 U.S. 304 (1981).

mon law action in nuisance.¹⁵³ The Court recognized that Congress, in enacting the Amendments, intended to supplant the "often vague and indeterminate nuisance concepts" with a comprehensive regulatory program supervised by an expert administrative agency.¹⁵⁴ Two subsequent federal court decisions, *New England Legal Foundation v. Costle*¹⁵⁵ and *United States v. Kin-Buc, Inc.*,¹⁵⁶ applied *Milwaukee's* water pollution precedent to cases involving air pollution, holding that the Clean Air Act precluded the plaintiff's cause of action in common law nuisance. Although the appeals court in *Costle* crafted its holding specifically to an instance where the EPA had approved the particular defendant's sulfur emissions,¹⁵⁷ its reliance on *Milwaukee* indicated that the Clean Air Act might generally pre-empt federal common law nuisance claims.¹⁵⁸ *Kin-Buc*, decided six months after *Costle*, held that the Clean Air Act generally precludes federal common law nuisance claims.¹⁵⁹

Due to the interstate impact of public utility air pollution, the federal common law nuisance action was an important mechanism for adjudicating interstate disputes over harmful emissions.¹⁶⁰

153. *See id.* at 317.

154. *Id.*

155. *See generally* 666 F.2d 30 (2d Cir. 1981).

156. *See generally* 532 F. Supp. 699 (2d Cir. 1982).

157. *See Costle*, 666 F.2d at 32.

158. In citing its reliance on *Milwaukee*, the court in *Costle* stated that: The Supreme Court held that, by imposing a complex regulatory system to govern the discharge of effluents into the nation's waters, Congress precluded the federal courts from fashioning common law remedies to sanction or abate conduct which had been approved specifically under the standards set forth in the Water Pollution Control Act. In the instant case, we need not reach the broad question of whether the Clean Air Act totally preempts federal common law nuisance actions based on the emission of chemical pollutants into the air. For even if such an action might be permitted in some circumstances, the Court's decision in *City of Milwaukee* makes it clear that appellants' claims here are barred on the narrower grounds relied upon by the district court in dismissing the complaint as against LILCO.

Costle, 666 F.2d at 32. This language indicates that the limited holding in *Costle* was a proper judicial adherence to answering only the questions certified for review. The court's reliance on *Milwaukee*, however, supported the prediction that in future cases the court might reach the broader conclusion of total preemption.

159. *See Kin-Buc*, 532 F. Supp. at 702.

160. *See Andrew J. Heimert, Keeping Pigs Out of Parlors: Using Nuisance Law to Affect the Location of Pollution*, 27 ENVTL. L. 403, 475-492 (1997). Heimert argues that federal pollution statutes inadequately protect the interests of localities in attacking pollution nuisances. *See id.* at 491. He notes that the Supreme Court has found that "the Clean Water Act (and by inference the Clean Air Act) has preempted both federal nuisance law and the nuisance law of the affected state." *Id.* at 491-92.

Although by its terms the Clean Air Act preserves remedies available at state law, federal common law is arguably more relevant to the skytrust than state nuisance law.¹⁶¹ The former applies to the interstate effects of pollution that tend to affect the rights of citizens regionally thereby invoking national interests. The latter addresses intrastate pollution problems of more local nature. The purpose of the skytrust is to compensate citizens for their interests in the nation's atmosphere. But if the Act, in effect, preempts local remedies and eliminates any recourse to the limited remedy arising from federal common law, the devaluation of private rights of action effectively eliminates an entitlement from the people. Unless the citizen suit provisions provide an effective substitute, the Act functions to transfer a public resource to the self-interest of a limited set of private parties.

Prior to the Clean Air Act Amendments of 1990, the Act did provide an appropriate remedy in the form of the citizen's enforcement action. Under section 304 of the Act¹⁶² any person may commence a civil action on his own behalf—'against any person . . .

Through the federal courts' power of diversity jurisdiction, many state claims brought in state court against large utility holding companies may be removed to federal court. *See id.* at 479.

161. *See* CAA § 403(f) (regarding the relationship between tradable allowances under the acid rain program and nuisance law):

Nature of allowances. An allowance allocated under this subchapter is a limited authorization to emit sulfur dioxide in accordance with the provisions of this subchapter. Such allowance does not constitute a property right. Nothing in this subchapter or in any other provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. Nothing in this section relating to allowances shall be construed as affecting the application of, or compliance with, any other provision of this chapter to an affected unit or source, including the provisions related to applicable National Ambient Air Quality Standards and State implementation plans.

Id.; *see also* CAA § 116:

Retention of State authority. Except as otherwise provided in sections 1857c-10(c), (e), and (f) (as in effect before August 7, 1977), 7543, 7545(c)(4), and 7573 of this title (preempting certain State regulation of moving sources) nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 7411 or section 7412 of this title, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan or section.

Id.

162. *See* CAA § 304.

who is alleged to have violated (if there is evidence that the alleged violation has been repeated) or to be in violation of (A) an emission standard or limitation under this Act or (B) an order issued by the Administrator or a State with respect to such a standard or limitation.¹⁶³ Thus the citizen's right to enjoin air pollution was preserved under the act consistent with the standards set in the statute. Any person can bring a suit, and the federal district courts are empowered to enforce the Act's emission limitation requirement and order civil penalties.¹⁶⁴

Recent limitations on the right to sue under the citizen's suit provisions should give us some pause. These limitations should disturb our confidence that the citizen's suit provision was an acceptable substitute for the effective surrender of a pre-existing entitlement. The Supreme Court held that a citizen would not have standing to bring an enforcement suit unless the violation was occurring at the time of the trial.¹⁶⁵ In *Steel Company v. Citizens for a Better Environment*, the Court held that past violations of a regulation do not constitute redressable injuries and therefore do not create a cause of action.¹⁶⁶ *Steel Company* limits the citizen's right of action to those involving current violations thus narrowing the scope of legal entitlement the Act preserves for private citizens.¹⁶⁷ However, the reasoning highlights the citizen suit's substantive quality as an action seeking remedy for an injury. *Steel Company's* insistence on a cognizable injury to the plaintiff delineates the citizen suit's procedural and conceptual origin in

163. *Id.* § 304(a)(1).

164. *See id.* § 304(a)(3).

165. *See Steel Company v. Citizens for a Better Env't*, 523 U.S. 83 (1998).

166. *See generally id.*

167. The Supreme Court effectively rejected this analysis as applied to the Clean Water Act (CWA). *See Friends of the Earth, Inc. v. Laidlaw*, 528 U.S. 167 (1999): *Laidlaw* contends that the reasoning of our decision in *Steel Co.* directs the conclusion that citizen plaintiffs have no standing to seek civil penalties under the Act. We disagree. *Steel Co.* established that citizen suitors lack standing to seek civil penalties for violations that have abated by the time of suit. 523 U.S., at 106-107. We specifically noted in that case that there was no allegation in the complaint of any continuing or imminent violation, and that no basis for such an allegation appeared to exist. *Id.*, at 108; *see also Gwaltney*, 484 U.S., at 59 ('the harm sought to be addressed by the citizen suit lies in the present or the future, not in the past'). In short, *Steel Co.* held that private plaintiffs, unlike the Federal Government, may not sue to assess penalties for wholly past violations, but our decision in that case did not reach the issue of standing to seek penalties for violations that are ongoing at the time of the complaint and that could continue into the future if undeterred.

Id. at 187.

the common-law nuisance claim, and distinguishes it from the citizen's suit cognate of the criminal or administrative proceeding.

The citizen suit has been the functional surrogate for the preempted common law nuisance claim. As against public utilities, whatever remains of the entitlement to be free of air pollution resides in the citizen suit. Indeed, this right of action provides a means through which citizens can goad the EPA to vigorous enforcement of the Act's anti-pollution standards, and, if agencies fail to protect the public interest, to provide private enforcement mechanisms.¹⁶⁸ A remnant of the citizen's property right in the traditional common law nuisance claim appears codified in section 304 of the Act.¹⁶⁹ Thus any serious limitation on the citizen suit provisions damages both the administrative function and takes from citizens a right they would otherwise have.

The effects of trading schemes compound the injury that results from a limitation of the citizen suit provisions. Under the emissions trading program a utility can legally emit as much pollution as it wants (consistent with other requirements of the Act) as long as it buys enough allowances to guarantee its pollution entitlements. This effectively deprives citizens of the ability to enjoin such excessive pollution via the enforcement action, and fails to compensate them for this divestiture of their property right in the nuisance action that was functionally replaced by the citizen's suit provision. Thus, the current emissions trading program effectively transfers the citizen's entitlement to the utility owners, who in turn trade these entitlements for cash and realize significant financial benefits. These benefits may or may not be passed on to the utilities' ratepayers. Professor Epstein counsels us that even if they are passed on, it is not at all clear that the requirements of the public trust obligations will have been met.¹⁷⁰

(3) A Critique of Emissions Trading Within the Framework of Law and Economics

To understand how emissions trading diminishes the citizen's valuable entitlement, it is helpful to look to modern applications of

168. See *Baughman v. Bradford Coal Co., Inc.*, 592 F.2d 215 (3d Cir. 1979).

169. However, it has been observed that the citizen enforcement action is less-than-perfectly effective as a defense mechanism. See Heimert, *supra* note 160, at 427-28 ("This 'citizen suit' provision was originally intended to allow citizens to spur EPA into bringing more enforcement actions against violators, but complicated issues about the feasibility of the Act's requirements have led to far fewer suits than originally anticipated").

170. See Epstein, *supra* note 5.

economics to environmental policy. In a famous article, "The Problem of Social Cost,"¹⁷¹ economist Ronald Coase argued that legal rules (such as nuisance) do not merely protect one party from another. Rather, legal rules protect one party at the expense of another. Observing this, Coase concluded that protecting one group's interest with a legal rule will always take something away from another group, and will therefore entail a cost that society will have to pay.¹⁷² In response to the economic inefficiencies of legal rules, Coase offered an alternative scenario in which parties bargain for the right to engage in, or stop the other from engaging in, a particular behavior.¹⁷³ Through bargaining parties settle on a mutually favorable price, producing an economically efficient allocation of resources that is better for the parties and for society. Coase's hypothetical state could only be obtained if the transaction costs of such bargaining were not prohibitive.¹⁷⁴ Accordingly, legal rules should reflect those the parties would bargain for or at a minimum they should not create obstacles to achieving the economically efficient result.¹⁷⁵

a. A Standard Efficiency-Based Argument for Trading

People who support emissions trading typically justify their claims by appealing to the Coase theorem and work that builds on it. This line of research strongly suggests that using a market-based approach like emissions trading rather than a command and control approach can minimize the cost of improving air quality. It is particularly important for the government to minimize the cost of reducing pollution under the Clean Air Act and other environmental policies, because the government has fiduciary duties with respect to both financial and natural resources.

Although emissions trading under the Clean Air Act Amendments (CAAA) has yielded cost savings relative to a command and control approach, research from the area of public economics indicates that Title IV and other trading schemes that simply give pollution rights to firms impose much higher costs on society than need be. Contrary to early policy recommendations based on the

171. See Ronald Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 2 (1960).

172. See *id.*

173. See *id.*

174. But see Guido Calabresi, *The Pointlessness of Pareto: Carrying Coase Further*, 100 YALE L.J. 1211 (1991). Transaction costs, "no less than existing technology, define what is currently achievable in any society." *Id.* at 1212.

175. Of course, Coase was using Pareto criteria for his definition of efficiency.

Coase theorem, the initial allocation of entitlements affects the potential efficiency gains from trading. This means that the uncompensated transfer of citizens' entitlement to enjoin pollution to private companies is not only inequitable—it is inefficient as well. A skytrust mechanism would help correct for both of these weaknesses.

Coase pointed out that problems involving non-market or external costs like pollution are essentially problems of incompletely defined property rights.¹⁷⁶ This insight led Coase to suggest that direct regulation or taxes on undesirable activities were not the only means to address external costs.¹⁷⁷ Instead, an economically efficient outcome could be reached by defining property rights and allowing the interested parties to negotiate with one another.¹⁷⁸ Coase emphasized that, as long as transaction costs were low, the efficient result would be reached regardless of the initial allocation of the entitlements.¹⁷⁹ Building on this central insight, economists suggested that air and water pollution could be reduced by identifying the total level of pollution that should be allowed, and distributing transferable rights to pollute amounting to the total allowable level.¹⁸⁰

As those proposals explained, the potential for emissions trading to yield cost savings follows from the fact that different firms face different marginal cost curves for controlling pollution. Whereas a command and control approach requires the same abatement activity of every firm regardless of these differences, a trading scheme exploits the differences and encourages firms to re-allocate reduction efforts to the sources that have the lowest-cost opportunities to reduce pollution. The re-allocation occurs through market transactions, which are made possible by allocating to firms a limited quantity of transferable rights to emit a certain amount of pollution. The scarcity of the rights creates an

176. See Coase, *supra* note 171, at 1-44.

177. See *id.*

178. See *id.*

179. See *id.*

180. THOMAS R. CROCKER, THE STRUCTURING OF ATMOSPHERIC POLLUTION CONTROL SYSTEMS, IN THE ECONOMICS OF AIR POLLUTION 61, 80-85 (Harold Wolozin ed., 1966) (discussing the use of tradable emission rights to control air pollution); see also JOHN H. DALES, POLLUTION, PROPERTY & PRICES 93-97 (1968) (applying the concept of marketable pollution rights to water quality problems). These proposals were soon strengthened by Montgomery's theoretical proof that markets in rights to pollute could be used to achieve specified levels of environmental quality at least cost. See W. David Montgomery, *Markets in Licenses and Efficient Pollution Control Programs*, 5 J. ECON. THEORY 395- 418 (1972).

incentive for sources with low-cost pollution reduction options to reduce pollution beyond the amount required by their initial entitlement holdings, down to the point at which the cost to them of reducing another unit of pollution equals the price that they can command from other firms for the entitlement to pollute that next increment. The low-cost firms then sell the excess rights to firms with higher control costs.

These transactions equalize the marginal cost of pollution reduction faced by all firms and thereby minimize the aggregate cost of reducing pollution to the level set by the total number of emissions allowances. Moreover, if the total allowable level of pollution is set at the proper level, the marginal cost faced by the firms will equal the marginal benefit of the avoided pollution damages, and the trading regime will be efficient as well as cost-minimizing.

Echoing Coase, economists working in this area have tended to emphasize that the cost-minimizing equilibrium can be achieved regardless of who receives the pollution rights in the first place. "Because of this result," one advises, "the management agency can distribute licenses as it pleases. Considerations of equity, of administrative convenience, or of political expediency can determine the allocation."¹⁸¹ Subsequent partial equilibrium analysis¹⁸² has cast some doubt on this strong assertion;¹⁸³ but that work generally concludes that economic efficiency concerns justify giving more attention to how entitlements were allocated among polluters rather than concluding that pollution rights should not be granted to firms. In the absence of strong economic arguments to do otherwise, the government has made the politi-

181. Montgomery, *supra* note 180, at 409.

182. Partial equilibrium analysis of single markets (or systems of related markets) rests on the assumption that all relevant variables except price are constant. In other words, the underlying demand and supply curves are specified in advance. Income levels of consumers are also specified in advance and remain constant. In general equilibrium analysis, by contrast, these variables are determined within the model.

183. For example, Robert Stavins shows that if transaction costs are significant, the initial allocation of permits can influence the amount of trading and the equilibrium permit distribution, thereby increasing the total cost of reducing emissions. See Robert N. Stavins, *Transaction Costs and Tradeable Permits*, 29 J. ENVTL. ECON. & MGMT. 133 (1995). Other research indicates that the initial allocation of entitlements could affect the efficiency of the trading outcome in the presence of market power and uncertainty about the approval of transactions. See Robert W. Hahn, *Market Power and Transferable Property Rights*, 99 Q. J. ECON. 753 (1984); Henry van Egteren & Marian Weber, *Marketable Permits, Market Power, and Cheating*, 30 J. ENVTL. ECON. & MGMT. 161 (1996); Juan-Pablo Montero, *Marketable Pollution Permits with Uncertainty and Transaction Costs*, 20 RESOURCE & ENERGY ECON. 27 (1998).

cally palatable move of giving emissions allowances to firms free of charge.

Even in the absence of strong arguments against giving away entitlements, it is important to consider how that transfer redistributes wealth. At first it might seem that trading can be equitable as well as cost-effective, since energy costs comprise a considerable portion of low-income households' spending. For example, if the cost savings from emissions trading keep electricity prices for consumers lower than would be the case under command and control regulations, those households benefit disproportionately from the avoided price increases. Yet when entitlements are given freely to firms, they generally will retain the scarcity rents that accrue to the pollution rights and pass that amount on to consumers in the form of higher product prices.¹⁸⁴ However, this outcome can be avoided if the government captures the rents through an up-front auction or other means.¹⁸⁵

b. The Efficiency Argument Against Giving Away Entitlements to Pollute

A very different set of insights has emerged from general equilibrium analysis, which enables economists to consider the interactions between environmental policies and other aspects of the economy such as taxes on non-environmental factors of production. Of particular relevance to the proposal for a skytrust mechanism is recent work in public economics on the closely related topics of the tax interaction effect, revenue recycling, and the potential for a "double dividend" from environmental taxes or emissions trading programs. Although the research in this area is not conclusive, there is widespread agreement on a core set of findings that partly support and partly challenge the skytrust proposal. Like the distributional argument above, these findings emphasize the importance of capturing the scarcity rents that result

184. Such rent capture by industry can happen—and apparently has happened—under other types of environmental policies as well. See Michael T. Maloney & Robert E. McCormick, *A Positive Theory of Environmental Quality Regulation*, 25 J.L. & ECON. 99 (1982) (identifying the conditions under which firms can enhance their wealth by retaining rents created by environmental regulation, and providing empirical evidence of such value-enhancing rent retention under the OSHA cotton-dust standards and the prevention of significant deterioration provisions of the CAA).

185. Four alternative instruments for capturing rents—a profit charge, an allowance rental charge, an ad valorem royalty and a lump sum charge—are discussed in R. Quentin Grafton, *Rent Capture in a Rights-Based Fishery*, 28 J. ENVTL. ECON. & MGMT. 48 (1995).

from the establishment of a system of marketable emissions permits for CO₂—as would be accomplished by auctioning off emissions permits in the skytrust program—rather than granting the entitlement to pollute to firms and leaving the rents in private hands. Here, however, the argument for rent capture is based on efficiency concerns. The challenges to a skytrust proposal from this research concerns the disposition of the revenues obtained through the auction or some form of transaction tax.

The basic intuition behind this area of research is that environmental policies are actually implemented in a second-best world that includes, for example, economic distortions resulting from taxes on labor and other factors of production and tax deductions for certain consumer goods.¹⁸⁶ Economic assessments of policies that have economy-wide impacts—like Title IV or a CO₂ trading program—need to take those distortions into account, because they will influence the ultimate economic effects of the environmental policies. In other words, the partial equilibrium analysis provides only part of the picture, and the partial view can yield inaccurate estimates of the costs of environmental policies.

The question of how environmental policies and existing taxes interact to alter the economic effects of the former is probably best addressed with an example. In the U.S. and elsewhere, payroll and other taxes drive a wedge between the price that workers receive for their efforts and the amount that employers pay. As a result, less labor is supplied than would be optimal. Given this context, suppose that the EPA implements a trading program to limit CO₂ emissions from utilities. Partial equilibrium analysis would assess only the “primary welfare gain” from the policy, which is the benefit (the averted environmental damages) less the costs incurred to reduce the emissions. Considering only this economic effect, the optimal level of emissions reduction (the level that would maximize social welfare) would be the Pigouvian level:

186. A few helpful overviews of work on interactions between environmental policies and taxes on factors of production are Ian W.H. Parry & Wallace E. Oates, *Policy Analysis in the Presence of Distorting Taxes*, 19 J. PUB. POLICY ANALYSIS & MGMT. 603 (2000) [hereinafter Parry & Oates, *Policy Analysis*]; Don Fullerton & Gilbert E. Metcalf, *Environmental Taxes and the Double-Dividend Hypothesis: Did You Really Expect Something From Nothing?* 73 CHI.-KENT L. REV. 221 (1998); and Lawrence H. Goulder, *Environmental Taxation and the Double Dividend: A Reader's Guide*, 2 INT'L TAX & PUB. FINANCE 157 (1995) [hereinafter Goulder, *Envtl. Taxation*]. For a discussion of interactions between environmental policies and distortions in consumer markets, see Ian W.H. Parry & Antonio M. Bento, *Tax Deductions, Environmental Policy and the “Double Dividend” Hypothesis*, 39 J. ENVTL. ECON. & MGMT. 67-96 (2000) [hereinafter Parry & Bento, *Tax Deductions*].

the level at which the benefit of reducing one more unit of CO₂ equals the cost of making that incremental reduction.

General equilibrium analysis accounts for two economic effects in addition to the primary welfare gain.¹⁸⁷ The first effect—the “revenue recycling effect”—is a potential source of welfare gain. This effect will be realized if the emissions trading program generates revenues and those revenues are used to cut the marginal rate of labor taxes.¹⁸⁸ Recycling revenues in this way at least partially corrects for the tax interaction effect, which exacerbated the wedge between the labor prices faced by employers and employees. The second is the “tax interaction effect.” This effect is welfare-reducing. It results from two impacts of the trading program. First, the program raises the cost of production, which gets passed on to consumers through higher prices. This in turn reduces the real wage of workers, which further discourages (already undersupplied) work. Second, consumers will shift away from carbon-intensive goods because of their higher prices. This will erode the demand for emissions allowances, reduce their value, and thus reduce the revenues that can be reaped for recycling. The further discouragement of work and the erosion of the environmental revenue base together comprise the tax interaction effect.

Considering all three economic effects—the primary welfare gain, the tax interaction effect, and the revenue recycling effect—can significantly change the estimate of the social cost of a trading program. Equally important is the fact that by identifying different sources of gains and losses, the cost analysis can lead to different policy recommendations than would follow from analyses that consider only the primary welfare gain. For example, economists

187. This explanation draws primarily from Goulder, *Envtl. Taxation*, *supra* note 186; and Parry and Oates, *Policy Analysis*, *supra* note 186. Most of the literature in this area focuses on environmental taxes. Auctioned permits are regarded as equivalent to taxes. Grandfathered permits are regarded as being equivalent to imposing an environmental tax under which revenues are returned through lump-sum payments. Trading and taxes are explicitly compared in Ian W.H. Parry, *Environmental Taxes and Quotas in the Presence of Distorting Taxes in Factor Markets*, 19 RESOURCE & ENERGY ECON. 203 (1997).

188. Labor taxes are mentioned here only as an example. See Goulder, *Envtl. Taxation*, *supra* note 186, at 165 (suggesting that the greatest gains will be realized by targeting revenue recycling toward the type of taxation with the highest marginal efficiency costs and that targeting taxes on capital might be preferred on that ground). See also Parry & Bento, *Tax Deductions*, *supra* note 186 (pointing out that recycling revenues to correct for distorting tax deductions can yield considerable welfare gains).

Goulder, Parry and Butraw find that the total cost of achieving the 10-million-ton reduction in SO₂ emissions called for in the 1990 CAAA is seventy-one percent (or \$907 million) higher when all three effects are included in the analysis than when only the primary welfare effect is considered. Yet if emissions allowances were auctioned rather than grandfathered and the revenues were used to cut taxes on labor income, more than half of the "extra" cost could be avoided.¹⁸⁹

Similarly, Parry, Williams and Goulder find that in the absence of revenue recycling, the tax interaction effect increases the cost of a hypothetical U.S. carbon tax or tradable permit program to such a degree that a positive carbon tax or (or any quantitative limit on emissions) cannot be justified on grounds of increasing social welfare unless marginal environmental benefits exceed \$25 per ton. However, if tax revenues (or proceeds from a permit auction) are used to cut income tax rates, a positive tax is justified as long as environmental benefits are positive.¹⁹⁰ Under all estimates of environmental benefits, these analysts suggest, the optimal tax rate is lower than the marginal environmental damages—which is the same as saying that it is lower than the Pigouvian tax rate.¹⁹¹

In other cases, accounting for all three economic effects can lead to a much lower estimate of the social cost or even a negative social cost. In this last case, the environmental policy is said to yield a "double dividend" and it can be justified as a welfare-increasing measure as long as the environmental benefits are at all positive.¹⁹² Regardless, the robust finding from the research is that trading policies that do not give away pollution rights have a lower social cost than those that do—at least as long as the reve-

189. See Lawrence H. Goulder et al., *Revenue-raising Versus Other Approaches to Environmental Protection: The Critical Significance of Preexisting Tax Distortions*, 28 RAND J. ECON. 708, 721 (1997) [hereinafter Goulder et al., *Revenue-raising*].

190. See Ian W.H. Parry et al., *When Can Carbon Abatement Policies Increase Welfare? The Fundamental Role of Distorted Factor Markets* 17 (Nat'l Bureau of Economic Research Working Paper 5967, 1997), available at <http://papers.nber.org/papers/W5967.pdf> [hereinafter Parry et al., *Carbon Abatement*]. See also A. Lans Bovenberg & Lawrence H. Goulder, *Optimal Environmental Taxation in the Presence of Other Taxes: General-Equilibrium Analyses*, 86 AM. ECON. REV. 985, 991-92 (1996).

191. See Parry et al., *Carbon Abatement*, *supra* note 190, at 17.

192. There are few examples of such a double dividend in the literature, except where researchers included the revenue recycling effect without accounting for the tax interaction effect. See Parry & Bento, *Tax Deductions*, *supra* note 186 (providing an example); and Goulder, *Envtl. Taxation*, *supra* note 186 (identifying the conditions under which a double dividend might be expected).

nues are used to address existing economic distortions. Goulder calls this the weak double dividend hypothesis, and notes that this argument is “easily defended on theoretical grounds and . . . receives strong support from numerical simulations” of actual economies.¹⁹³

Fullerton and Metcalf recast the double dividend hypothesis in terms of scarcity rents.¹⁹⁴ They emphasize that the welfare-reducing interaction between environmental policies and pre-existing economic distortions arises from the generation of scarcity rents that remain in private hands. Thus, environmental policies that do not create scarcity rents (such as a technology mandate that applies to both existing firms and market entrants) and environmental policies that capture all rents (like emissions trading programs in which pollution rights are auctioned) do not generate the interaction effect described above.¹⁹⁵

c. How Should Revenues Captured from Emission Trading be Distributed?

This brings us to the main challenge that this area of research poses for the skytrust proposal, namely: The very work that establishes strong efficiency grounds for capturing the scarcity rents that accrue to pollution rights casts equally strong doubts on the notion that returning the auction revenues to citizens through lump-sum payments is the best way to dispose of the revenues. Instead, the studies strongly suggest that social welfare will be greatest if revenues raised from selling off tradable emissions allowances are used to reduce the marginal rates of taxes on labor or capital, or to correct distortions in consumer markets created by tax-favored goods.

This is a strong argument, at least if economic efficiency is the only perspective that is considered. When the studies discuss “op-

193. Goulder, *Envtl. Taxation*, *supra* note 186, at 175. Goulder’s exact statement of the weak form of the double dividend hypothesis is this: “By using revenues from the environmental tax to finance reductions in marginal rates of an existing distortionary tax, one achieves cost savings relative to the case where the tax revenues are returned to taxpayers in lump-sum fashion.” *Id.* at 159.

194. Don Fullerton & Gilbert Metcalf, *Environmental Controls, Scarcity Rents and Pre-existing Distortions* (Nat’l Bureau of Econ. Research, Working Paper No. 6091, 1997), available at <http://papers.nber.org/papers/W6091.pdf>.

195. *See id.* at 39. That this is basically a restatement of the above point about the importance of revenue recycling can be seen by considering that in most studies, the revenue recycling effect just offsets the tax interaction effect. However, Fullerton and Metcalf’s account does not seem to explain the instances when a double dividend is realized.

timizing" social welfare, they are defining the term "optimal" strictly in the sense of efficiency. At least one study suggests that the results can come out differently when some measure of equity is factored in to the definition of "optimality." Proost and Van Regemorter distinguish among income groups and include a term to reflect society's aversion to inequitable income distributions.¹⁹⁶ They find that, if society is averse to inequality and the lump-sum payments accrue relatively more to the poor, the equity benefit of returning environmental tax revenues to citizens through lump-sum payments can compensate for the efficiency losses from interactions between the environmental policy and a distortionary tax.¹⁹⁷ In other words, the weak double dividend hypothesis and its emphasis on recycling revenues to reduce the rates of distortionary taxes can fail when equity concerns dominate other considerations.

d. Emission Trading, Efficiency, and the Equal Protection Dimension of the Public Trust Doctrine

As I have just discussed, emissions trading has been characterized as a Coasean attempt to solve the problem of economic inefficiency that arises under a command and control regulatory structure like the Clean Air Act. This arrangement has been deemed inefficient for many reasons, but especially because the rule does not account for unequal compliance costs will burden some polluters more than others and thus fails to incorporate structural efficiencies that might obtain under another system of pollution reduction. It also produces other kinds of structural inequities. If one assumes that utility plants in poorer areas will pass compliance costs on to their customers, the rule also tends to place a greater relative burden on less capitalized utility markets, thus operating like a regressive tax. Consequently, top-down regulation can tend to create negative externalities: Higher utility costs, reduced consumption, and reduced savings in the less affluent communities which tend to have less efficient and dirtier utility plants. This outcome contributes to the economic problems in those areas. In wealthier areas, this outcome is much less perceptible.

196. See S. Proost & D. Van Regemorter, *The Double Dividend and the Role of Inequality Aversion and Macroeconomic Regimes*, 2 INT'L TAX & PUB. FIN. 207 (1995).

197. See *id.* at 212.

By uniformly spreading the costs of pollution control, command and control regulation burdens poorer communities while bestowing a relative windfall upon richer ones. Assuming that pollution control is a universally desired public good, richer communities pay a much smaller proportion of their wealth for this good than poorer ones do. Poorer communities receive the good at the cost of economic security that richer communities do not have to sacrifice. In this sense, then, the rule actually extracts wealth (clean air plus what is sacrificed for compliance) from the poorer communities and gives it to the richer ones.

Emissions trading seems to mitigate the problem of unequal cost spreading discussed above. Those who are better able to bear the costs of reducing emissions have an incentive to reduce on behalf of those who are more burdened by pollution control costs.

Though I have merely sketched out a schematic of the argument, a few lessons and problems emerge from this analysis. The first is that an emitter is not only legally obligated to reduce emissions down to the limit specified on its permit; it is also legally entitled to emit up to that amount. Like many other entitlements, this one is freely transferable. The other lesson is that, beyond establishing a system to equitably spread the costs of pollution reduction, emission trading creates a market based on the demand for pollution rights that has the advantage of improving corporate balance sheets.¹⁹⁸

Emission trading allows parties to bargain around a legal rule. As I have already indicated, current emission trading significantly ignores the justice interests that the uniform requirements sought to preserve. Emission trading allows polluters to sell pollution rights to each other. Thus two potential defendants bargain over the price of an entitlement that may immunize the holder from an enforcement action. Absent a strong citizen suit provision, however, members of the public, those the Clean Air Act is meant to protect, are left out of the bargain. Emission trading protects the direct financial interests of polluters at the expense of the citizens who could otherwise enjoin excessive emissions. Except where the government is selling allowances, the public, the real party in interest, receives none of the profits

198. The Phase II emissions trading program is projected to save utilities, nationwide, \$2.3 billion out of an estimated \$3.06 billion cost of compliance. See *Five Years of Interstate SO₂ Allowance Trading: Geographic Patterns and Potential Cost Savings*, ELECTRICITY J., May 18, 1998.

flowing from the sale of his or her entitlement.¹⁹⁹ Within the context of the public trust interest in the sky resource this effect implicates the Constitutional principle requiring just compensation or at minimum due process for the surrender of an entitlement. To the extent that the Constitutional foundations for the public trust doctrine rest in the same justice requirement a trading scheme that fails to account for the real parties in interest should cause us to look more closely at the structure of the trades and the identities of those who capture the value of the trades. Professor Epstein has suggested that there is an equal protection dimension to the public trust doctrine.

When property is conveyed out of public trust for inadequate consideration, some citizens receive disproportionate benefits, while others receive disproportionate losses. The uncompensated transfer of public property to private use thus disadvantages some at the expense of others. Those who have come up short under the transfer have been denied the equal protection of the law.²⁰⁰

By vesting market-making responsibility in a mechanism administered for the people, and by enabling citizens to capture the profits from emissions rights transactions, the skytrust compensates them for the diminishment in their entitlement. Therefore, a skytrust would bring the Clean Air Act's emissions trading system in line with principles that underlie the obligation to reduce pollution. It would also better preserve the value of the citizen's diminished cause of action against air pollution nuisances; and arguably bring the Act into closer accord with Congress' fiduciary

199. At the onset of the SO₂ allowance program regulators expressed intent to see that the costs and benefits of emissions trading are equitably distributed. See *Industry Faces Key Ratemaking Issue of Cost vs. Market for SO₂ Allowances*, ELECTRIC UTIL. WEEK, October 3, 1994. That article stated that a regulators' committee was making an unprecedented effort to equitably distribute the costs and benefits of compliance under the Clean Air Act Amendments, and to avoid the anticipated conflicts stemming from variations in different states' laws. However, that effort has not mitigated the significant conflicts that have arisen. See *Industrials Challenge Kentucky Power's Decision to Retain its Allowance Earnings*, Industrial Energy Bulletin, January 23, 1998. The Kentucky Power Company has resisted flowing \$2 million in earnings from SO₂ allowance sales back to its customers in the form of lower rates, and its decision has been contested by the Kentucky Industrial Utility Customers. This scenario is indicative of the ambiguity that exists in the equitable treatment of emissions trading proceeds, and illustrates the point that the current emissions trading scheme is ineffective in preserving the interests of third party stakeholders in pollution rights transactions.

200. Epstein, *supra* note 5, at 428.

duty to protect the interests of private citizens. The skytrust places a price on the right to pollute through the emissions trading scheme and compensates the public for an interest held by all citizens and surrendered by all through the imposition of a national program to reduce emissions.

As I have noted, taking account of these interests would implicate the efficiency gains promised by a trading scheme, but the research merely requires that we think carefully about how the value that is captured by the trading scheme is distributed and to whom. What I have suggested here is that apart from the efficiency goal, there are other, deeper equality principles that are embedded in the public nature of the interest in the sky resource. Whatever scheme is adopted, efficiency alone will not be the sole evaluative criterion unless the determination is made that the savings, both in social costs measured as a tax and in the social costs measured as damage to human health and to the environment, dictates one model over all others.

C. Is the Surrender of a Nuisance Claim a Taking?

A corollary of the equal protection dimension of the public trust doctrine, and one that directly implicates the economic analysis, is the suggestion that the government's allocation of profits from allowance transfers to the exclusion of common asset interest holders constitutes a taking compensable under the Fifth Amendment of the United States Constitution. There are a variety of ways to assess this claim. You need not ultimately find that a taking has resulted to benefit from the insights such an inquiry can yield. From the perspective of sound policy, the issue of transferring a private interest from one person to another in instances of market failure is almost always permitted.²⁰¹ The transfer of public resources to private persons are permitted as well, although they too are subject to the kind of searching inquiry discussed earlier.²⁰² What about the transfer of a common asset that has occurred without the searching inquiry that would be required by the due process clause?²⁰³ The transfer of the sky asset from the common pool of assets held by all to a small group of private

201. See *Hawaii Housing Authority v. Midkiff*, 467 U.S. 229 (1984).

202. The history of the West is the history of public transfers to private parties.

203. See the discussion of this issue in *City of Monterey v. Del Monte Dunes*, 526 U.S. 687 (1999). The due process required of public actors when limiting private rights has never been definitively settled, especially where it implicates other constitutional obligations.

parties where it is done in a way that prevents the private vindication of the common right poses a difficult question, but it is one that has been at least provisionally answered. Remember that here not only has the pollution loading capacity of the atmosphere been allocated from some private parties to others, but the legal capacity to challenge the allocation has in essence been eliminated as a private right.

The Supreme Court of Iowa faced a version of this question. In the case of *Borman v. Board of Supervisors*,²⁰⁴ they held that the Iowa Right to Farm law was unconstitutional and worked a taking because it insulated some private parties from private nuisance actions. While the statute in question did not grant a total immunity from nuisance suits, it did immunize farmers from suits by their neighbors arising during normal farm operations. In analyzing the issue the court concluded that for purposes of compensation, property includes every sort of interest the citizen may possess.²⁰⁵ Consistent with the reasoning in *Boomer*, the right to maintain a nuisance is equivalent to granting an easement to the defendant.²⁰⁶ Moreover, where the nuisance is maintained by virtue of a grant from the government, the government action is the real source of the injury and thus is either impermissible or if permissible, compensable. According to the court,

[T]he state cannot regulate property so as to insulate the users from the potential private nuisance claims without providing just compensation to persons injured by the nuisance . . . [A]n act of the legislature cannot confer upon individuals or private corporations, acting primarily for their own profit, although for public benefit as well, any right to deprive persons of the ordinary enjoyment of their property, except upon condition that just compensation be first made to the owners.²⁰⁷

The state may not, according to this court, permit condemnation by nuisance. One question that bears asking is whether the limitation on private enforcement actions so limits pre-existing rights as to constitute a deprivation of either due process or prop-

204. See generally 584 N.W. 2d 309 (Iowa 1998), cert. denied, Girres v. Bormann, 525 U.S. 1172 (1999).

205. See *id.* at 315. It added parenthetically, '[P]roperty is not alone the corporeal thing, but consists also in certain rights therein created and sanctioned by law, of which, with respect to land, the principal ones are the rights of use and enjoyment. . . .' *Id.*

206. See generally *id.*

207. *Id.* at 320 (citing *Pennsylvania R.R. v. Angel*, 7A. 432, 433 (N.J. Eq. 1886)).

erty? If so, the skytrust is one mechanism to begin the redistribution in a way that directly addresses the transfer of value that is at the heart of the taking issue. As I have argued elsewhere, since the transfer of equivalent value is sufficient, creation of a skytrust both recognizes the interest of the people in the air resource and gives us a mechanism to give as well as to take.

IV. Conclusion

I have argued that the public has a current and continuing interest in the air resource. This commonly held interest requires that where the government has sanctioned the private trading of this asset the government must account for the profits of such trades. In short, it is not the government's property to give away. Ancillary benefits associated with cleaner air do not offset the public's interest in the value of the resource, especially where the regulatory scheme has effectively precluded private action in defense of the resource. This does not discount the government's obligation to protect the resource from predation; it merely suggests that the government's obligation is not exhausted by that effort. The government in those moments is acting both as a trustee and a referee. As a trustee it must protect the basic value of the resource. However, when it acts to alienate the resource to the detriment of other rightful claimants it has a high burden of justification that it must meet. While there has been no generalized public trust obligation imposed on the federal government, the federal government has recognized that it acts in a trustee capacity towards public resources. Yet this recognition can scarcely be enough. The limiting principle buried in that trustee role must arise from independent obligations that ground both claims to democratic legitimacy and protection of property. The law surrounding the evolution of the public trust doctrine suggests the contours of those obligations.

In addition to the property roots of the public claim on the air resource, economic research supports the conclusion that the efficiency gains made by using market mechanisms to reduce pollution also supports the capture by the government of scarcity rents created by the allocation of pollution rights. Put another way, the protection of the property interest of the public that is reduced to tradable pollution rights makes economic sense, as well as being justified by our deeply held normative commitments reflected in property doctrine. Moreover, when the efficiency arguments are combined with arguments rooted in equity claims, some of the

benefits of the market mechanisms may be diminished, but other values like our commitments to equality and democratic legitimacy may be strengthened. We have looked at the sky as though it were a common resource free of any substantial public interest other than the protection of its quality. Yet by taking this narrow view we have permitted the government to transfer a substantial public resource to private hands free of charge. It is this failure that I have been arguing against.